

MATRICULATION GEOGRAPHY.

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WITH

MAPS AND DIAGRAMS,

Fourth Edition—Revised and Enlarged.

(ELEVENTH THOUSAND.)

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TO

The Sainted Memory

OF

MY REVERED FATHER

Babu Madhu Sudan Mukerji,

Who was for over 34 years Head Master
of the Government High School,

Sultanpur,

THIS LITTLE BOOK IS INSCRIBED
IN PIOUS REVERENCE.



The entire sale proceeds of this work have been dedicated to the endowment of a scholarship or scholarships in memory of the late Babu Madhu Sudan Mukerji, for the benefit of the student community of these Provinces.



Preface.

THIS book has been written for the use of candidates preparing for the Matriculation Examination of the Allahabad University. It covers completely the syllabus in Geography prescribed in the Prospectus of Studies, and is expected to meet all the requirements both of the class-room and the examination-hall. It is not meant to be learnt by heart, but to be studied with the intelligent use of the proper maps. A good atlas is an indispensable aid to the study of Geography; and I trust teachers will insist on their pupils' verifying from a map every statement they read or reproduce.

In the preparation of this manual, I have consulted the following books:—

- (1) Arden Wood's *General Geography for Indian Schools* :—
- (2) *Manual of Geography* (published by the Christian Literature Society for India);
- (3) Prof. Mackay's *Manual of Modern Geography*;
- (4) Dr. Morison's *Historical Geography*;
- (5) Hughes' *Manual of Geography* (Longmans, Green & Co.);
- (6) Richardson's *School Manual of Modern Geography* (Dr. Smith's English Course Series).

The portion dealing with India has been placed separately under a separate 'part,' and has been

based mainly on Morison's 'New Geography of the Indian Empire' (1907).

Besides the above authors I owe much to the learning and experience of a number of my educational friends, who have helped me in manifold ways at each stage of the preparation of this book. I shall be obliged to any teacher who may kindly offer suggestions for the improvement of the work.

ALLAHABAD :

December 16, 1907.

A. C. M.

Preface to the Second Edition.

THE ready reception accorded to the First Edition has encouraged me to bring out a revised and enlarged edition quickly. The portions dealing with Mathematical and Physical Geography have been entirely re-written, and the whole of the remainder has undergone thorough revision and brought upto date. A special feature of this edition is that a number of diagrams have been included; and it is hoped that these will prove very useful. I have to thank my friend Prof. Sohan Lal Srivastava, M. A., B. Sc., for his paper on 'Eclipses' which has been added as an appendix.

MUIR C. COLLEGE, ALLAHABAD :

September 22, 1908.

A. C. M.

Preface to the Third Edition.

IN this edition I have tried to revise the whole matter with a view to making it upto-date. Book VII, which treats of the Geography of the Indian Empire, has been much enlarged, a new chapter on Ceylon being added at the end.

A new feature of the present edition is the Appendix containing a short note on Hindu Geography, or Geography according to the Hindu Puranas, contributed by my friend and colleague Mahamahopadhyaya Pandit Ganga Nath Jha, M.A., D. Litt., F. A. U., to whom my best thanks are due.

MUIR C. COLLEGE, ALLAHABAD :

March 13, 1910.

} A. C. M.

Preface to the Fourth Edition.

IN this edition every page has undergone thorough revision, and the figures have everywhere been checked and brought upto date. Much useful information, aggregating some 40 pages of print, has been added wherever there was thought room for it. The census figures are those of 1911, wherever the returns were available.

M. C. COLLEGE, ALLAHABAD :

July 24, 1911.

} A. C. M.



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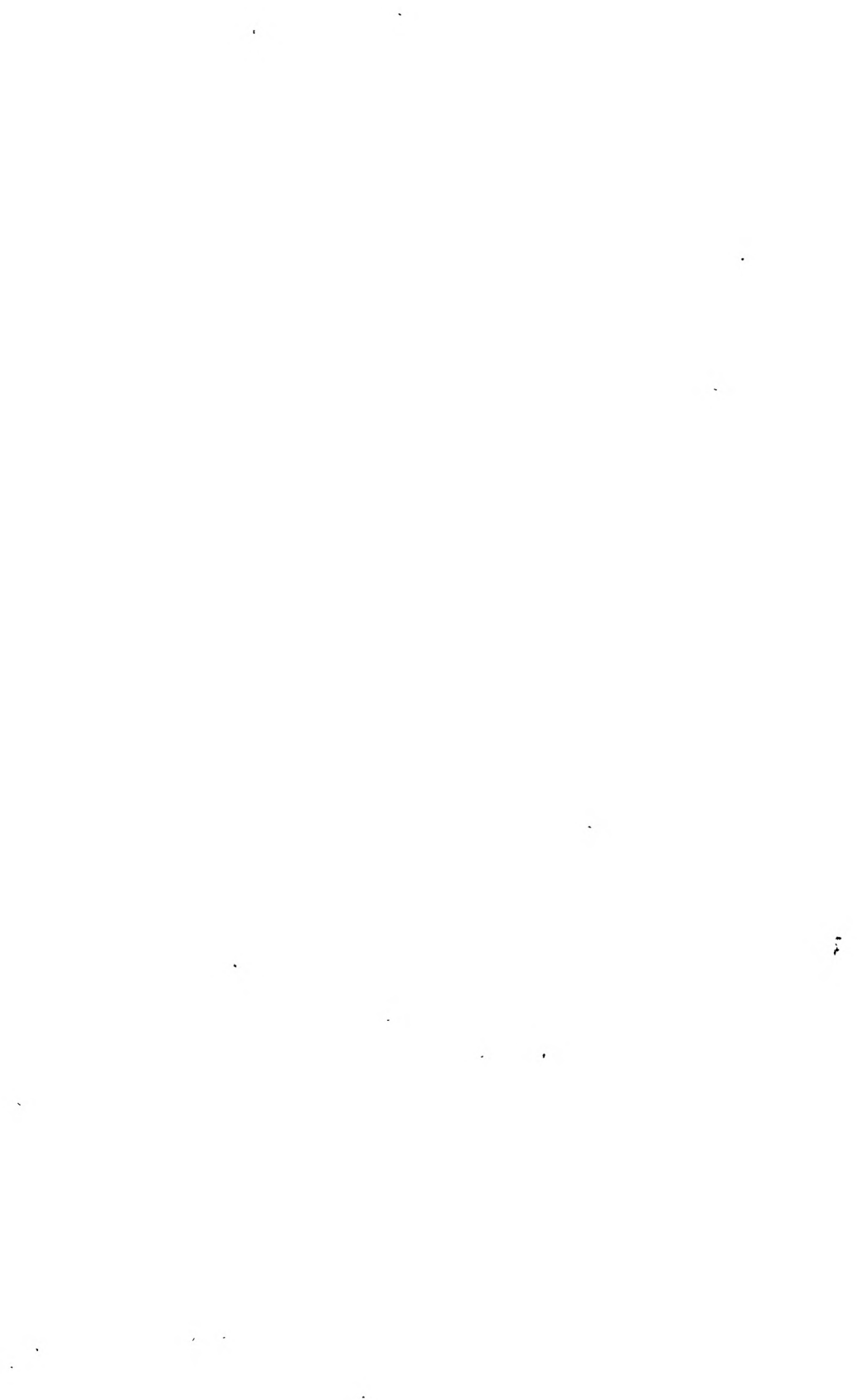
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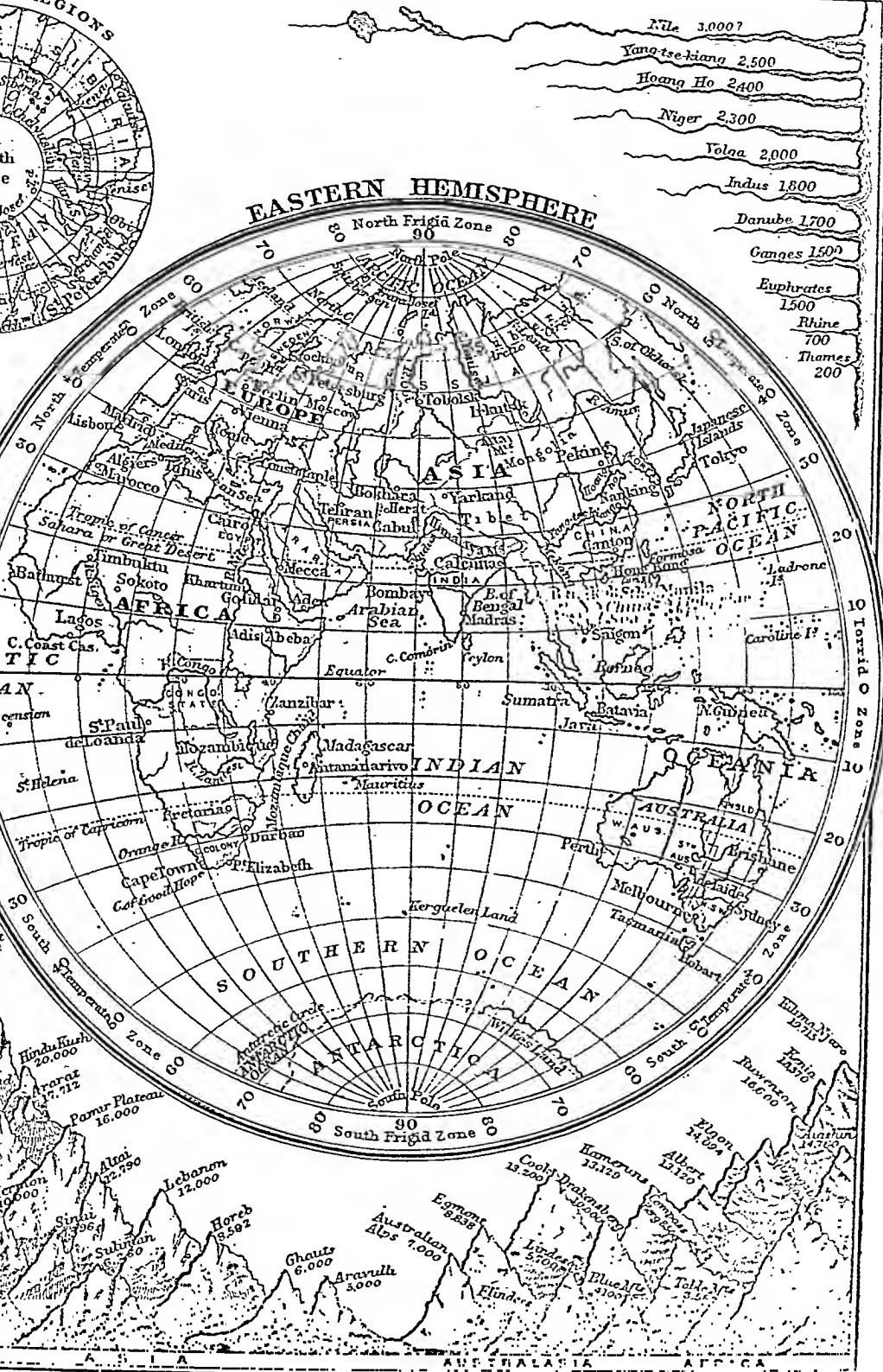
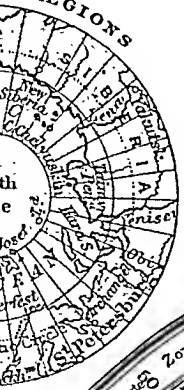
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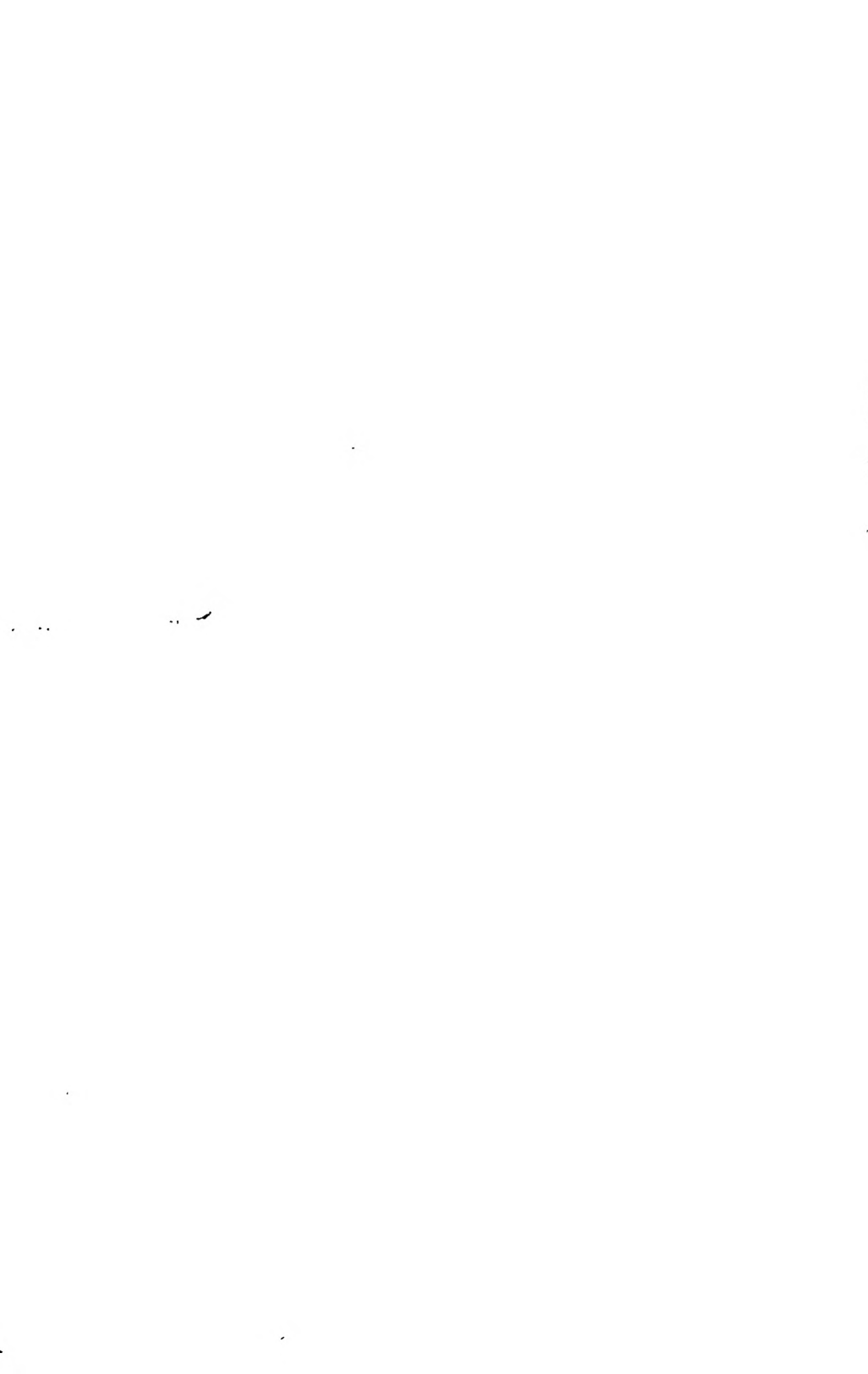
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MATRICULATION GEOGRAPHY

INTRODUCTION.

1. **Definition of Geography.**—The word ‘Geography’ is derived from two Greek words, *Ge*, ‘the earth,’ and *Graphé*, ‘description,’ and means therefore a ‘description of the earth.’ But the term is limited by usage to the description of the Earth’s *surface*. It does not concern itself with what is *below* the surface, for that is the business of another science, geology. Geography may therefore be defined as *the knowledge of the distribution of phenomena on the surface of the Earth considered as the abode of man*.

It is true that underground phenomena, like springs and volcanoes, do fall within the scope of Geography, but it is only so far as these phenomena manifest themselves *above* the surface that Geography takes notice of them.

2. **Importance of the study of Geography.**—Geography is a science of the utmost practical importance, not only to the sailor, the soldier, the missionary, and the traveller, who have to go from place to place, or to the merchant who has trading interests in distant lands, but even to the ordinary citizen. Many of the interests of the present day are largely geographical, and the daily paper acquires a fresher and fuller interest when it is read in this light. Even to know where the places one reads of are, what is their climate, and how they are peopled, is something; but taking the wider view of Geography as the science which aims at explaining the relation of people to land, there is scarcely a problem of history or of present politics and

economics in any country which cannot be elucidated by the application of its principles. When it is understood that Geography is not merely a description of the immobile surface of the Earth, but a scientific study of the influences which the land exercises on its people, and of the reaction of the people on their own and on other lands, the value of the science and its practical utility will at once become manifest.

3. Branches of Geography.—Modern Geography may be sub-divided into five classes as follows:—

(1) **Astronomical Geography**, which treats of the Earth considered as a heavenly body.

(2) **Mathematical Geography**, which treats of the Earth as a globe marked with various imaginary lines and points upon its surface.

(3) **Physical Geography**, which treats of the natural features of the Earth's surface, the atmosphere, and the soil and climate and products of different parts of the surface.

(4) **Political Geography**, which treats of the artificial divisions of the Earth's surface into different states and countries, their extent, population, government, &c.

(5) **Commercial Geography**, which treats of the natural resources of the different countries of the world, and their means of communication with other countries.

4. Causes of the Progress of Geographical Discovery.—Four main causes have led to geographical discovery and exploration:—

(a) commercial intercourse between different countries ;

(b) the operations of war ;

(c) pilgrimages and missionary zeal ;

(d) the pursuit of knowledge for its own sake,—which is the highest of all motives.

PART I.

ASTRONOMICAL GEOGRAPHY.

INTRODUCTION.

Astronomical Geography treats of the Earth as a heavenly body, and describes the relation in which it stands to other heavenly bodies.

1. **The Earth as a heavenly body.**—Astronomy tells us that the Earth is one of the heavenly bodies that occupy space. Now, heavenly bodies are of two kinds: (1) those that are *fixed**—called Stars; and (2) those that are *wandering*—called Planets.† The Earth belongs to the latter kind: it travels round the sun in a nearly circular path, called its *orbit*. But it is not an isolated body, but one forming part of a connected group of heavenly bodies, called the Solar System, the different members of which are united in one beautiful and harmonious whole by the force of gravitation.

2. **The Solar System.**—The sun, the planets, and other heavenly bodies that revolve round the sun, together with the secondary planets that revolve round other planets,‡ make up a whole called the Solar System. This system is so named from the fact that the sun forms the centre of the group, and is by far the largest body belonging to it.

* The stars are called *fixed*, because, in consequences of their immense distance from us, they always appear in the same position in the concave firmament.

† The word *planet* comes from the Greek word *planetes*, meaning a 'wanderer.'

‡ These are called satellites.

3. **The Earth's relation to the Sun.**—The Sun is one of the smallest of the fixed stars.* But compared with the Earth it is of vast size, being nearly $1\frac{1}{2}$ million times the size of the Earth. It is nearly 93 million miles distant from the Earth. The length of shadows cast on earth in the light of the sun depends upon the height of the sun in the sky. The higher the sun, the shorter the shadow. Hence at midday shadows are shorter than in the afternoon, when the sun is lower. Hence at midsummer shadows are shortest, and at midwinter, longest. At the equator, about the 21st March and the 21st September; at the Tropic of Cancer, about the 21st June; and at the Tropic of Capricorn about the 21st December, there is no shadow at noon, because at these places and times the rays of the sun come down perpendicularly. It is only in regions where the rays fall slantingly that shadows are cast, and the length of the shadow simply varies with the extent of the slant.

The planets.—The eight principal planets of the Solar System, arranged in order of their distance from the Sun, are—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Of these, Venus is the brightest and nearest to the Earth, and Jupiter the largest.

4. **The Earth's relation to the Moon.**—The moon is a satellite† wandering round the Earth, and is 49 times smaller than the Earth, and 240,000 miles distant from it.

* The total number of stars visible to the naked eye in the most favoured localities (*i. e.*, at the Equator) is about 5000, and about twenty million are revealed by large telescopes. Most of these lie in the *Milky Way*, a long luminous track stretching across the sky from horizon to horizon. The more brilliant of the stars form groups or *constellations*, such as those of the 'Great Bear' (*Ursa major*) and the 'Little Bear' (*Ursa minor*.)

† A *Satellite* is a secondary planet that revolves round another planet.

It has no light of its own, but shines with the reflected light of the sun. The time it takes to make a complete revolution round the Earth is 27 days 8 hours, but a longer time, viz., $29\frac{1}{2}$ days, is required to bring the moon twice in succession before the sun, so as to give us what we call the "full moon" (or *Purnamāshī*). This is because, while the moon is revolving round the Earth, the latter is moving along its own orbit. Hence, in order to return to a position exactly opposite the sun, the moon has to travel somewhat more than one complete revolution, and the time taken in so doing is $29\frac{1}{2}$ days, which is the length of one lunar month (or a month according to a Hindu *tithi*.)

When nearest the earth the moon is said to be in Perigee; when most remote, in Apogee.

5. **Definitions of Astronomical Terms,**—(1) A Fixed star is a heavenly body which seems to keep in the same position relatively to other fixed stars; *e. g.*, the Pole Star, which always points to the North.

(2) The Planets are heavenly bodies which revolve round the sun in a nearly circular path; *e. g.* the earth. They shine with reflected light; revolve in slightly elliptical orbits from west to east, and with varying velocities; rotate on their axes; and have thus, in common with our earth, the succession of day and night, the phenomena of the seasons, and their periodic times of days and years.

(3) An Asteroid is a smaller variety of planet; (from Gr. *aster*, 'a star,' and *eidos*, 'form'). The asteroids, numbering over 300, are very small bodies, supposed to be fragments of some planet broken up, and are situated

between Mars and Jupiter. The principal are Ceres, Pallas, Juno, Vesta.

(4) A Satellite is a secondary planet revolving round another planet; *e. g.* the moon is a satellite of the Earth.

(5) A Comet is a heavenly body of very thin matter which approaches the sun from an enormous distance, circles round it, and then flies off again into space. It generally consists of a head and a long luminous tail. The word *comet* is derived from Gr. *kometes*, 'long-haired,' because a comet has a long tail resembling hair. The most celebrated comet is Halley's comet, which was discovered in 1682, and has since reappeared every 75 years, its latest appearance having been in 1910.

(6) A Shooting Star is a very small heavenly body which revolves round the sun, and ignites by friction due to its coming in contact with the atmosphere of the Earth.

(7) An Aerolite (from Gr. *aer*, 'the air,' and *lithos*, a 'stone') is a shooting star that falls on the Earth.

(8) The path which the Earth takes round the sun is called its Orbit.

(9) The Horizon is a vast circle extending around us on all sides, where the earth and sky seem to meet.

(10) The Zenith and Nadir of a spectator are the two points of the celestial sphere which are vertically above his head and vertically below his feet respectively.

(11) The Ecliptic is a great circle of the celestial sphere which the sun appears to describe in a year, but which is really described by the Earth in that time.

N. B.—The *ecliptic* is so called from the fact that eclipses of the sun and moon can only occur when the latter are on or very near this circle.

(12) The **Zodiac** (from Gr. *Zodion*, ‘a small figure painted or carved’) is a belt in the celestial sphere, which extends about 9° north and south of the ecliptic, and within which the chief planets perform their revolutions.

N. B.—The *Zodiac* is so called because most of the constellations which occupy its twelve divisions of 30° each were represented by figures of animals. These figures are called the **Signs of the Zodiac**. The twelve signs of the Zodiac are as follows :—

1. Aries (ram) मेष	}	Spring.
2. Taurus (bull) वृष		
3. Gemini (twins) मिथुन		
4. Cancer (crab) कर्क	}	Summer.
5. Leo (lion) सिंह		
6. Virgo (virgin) कन्या		
7. Libra (balance) तुला	}	Autumn.
8. Scorpio (scorpion) वृश्चिक		
9. Sagittarius (archer) धनु		
10. Capricornus (goat) मकर	}	Winter.
11. Aquarius (water-carrier) कुम्भ		
12. Pisces (fish) मीन		

The Sun rises in the constellation Aries on the 21st of March, and about the 21st of every successive month he enters a new constellation, until his apparent annual circuit through the stars is completed, when he returns to Aries.

CHAPTER I.

SHAPE OF THE EARTH.

The Earth is in shape like a round ball, somewhat flattened or compressed at the top and bottom, or what in scientific language is called an *oblate spheroid*.

1. Proofs of the spherical form of the Earth.—

(1) All the other members of the Solar System are spherical.

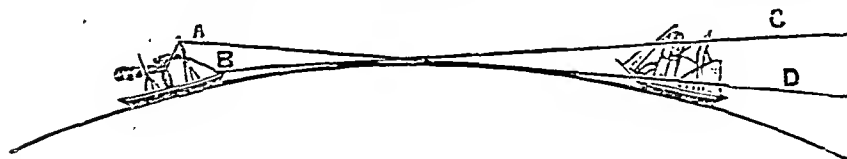
(2) A larger portion of the Earth's surface is visible from a height than from a plain.

(3) As a ship nears the coast, the tops of mountains become visible first, and lower grounds afterwards.

(4) As a ship sails away from harbour, the spectator on the coast loses sight of the hull first, and then of the masts. Similarly in the case of an approaching ship, he catches sight of the masts first, and then the hull. Now, if the Earth were flat, the big hull would be visible longer and sooner than the slender masts. Hence it is the *curved* surface of the Earth which obstructs our view.

Fig.

DIAGRAM TO ILLUSTRATE THE SPHERICAL FORM OF THE EARTH.



(5) The shadow which the Earth casts on the moon during an eclipse is always circular.

(6) The horizon at sea or on a level plain is always circular.

(7) In travelling to any considerable distance, north or south, new stars come to view in the direction in which the traveller is advancing, while others disappear in the direction from which he is receding.

(8) By sailing constantly in one direction, east or west, we shall return to the place from which we have started. This has actually been found to be the case by many navigators.

(9) The fact that it is day at some parts of the earth when it is night at other parts, proves that the Earth is round.

(10) In cutting for a canal, or constructing a railway line, it is found that allowance must be made for a dip of about eight inches per mile, in order to attain a uniform level.

But even after all these proofs it seems very hard to imagine how an irregular surface, full of high mountains and deep valleys, can form part of a regular curve. The explanation is that the earth is so vast in size that even the highest mountains are in comparison merely like little grains on its surface.

2. Variation in temperature over the Earth's surface, due to the spherical form of the Earth.—One result of the spherical form of the Earth is that different parts of its surface have different degrees of heat and cold.

The Earth's surface being curved, the sun's rays do not strike with equal force upon every part of it, as would have been the case if it had been a flat plain. Every part would then have been equally hot and cold. As it is, the sun's rays fall straight down only upon that part of the Earth which is midway between the two Poles; and it is here, therefore, that the heat is greatest. But over those parts where the Earth's surface curves away towards the Poles, the sun's rays can only fall slantingly, and these are accordingly much cooler. Hence we find great varieties of climate in different parts of the Earth.

3. **The five Zones.**—The variation in temperature over the earth's surface, due to the spherical form of the Earth, has led to a division of it into five parts, called *zones*, because they go round the globe like belts (*zone* literally meaning a 'belt'). These five climatic zones are:—

(1) The **Torrid zone**, running round the centre of the globe. It is the hottest part of the earth.

(2) The **North Temperate zone**, to the north of the Torrid zone. It has a *temperate* climate, i. e., neither very hot nor very cold.

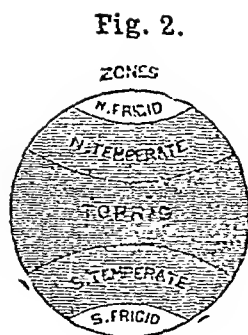
(3) The **South Temperate zone**, to the south of the Torrid zone. This part has also a *temperate* climate.

(4) The **North Frigid zone**, lying between the northern boundary of the North Temperate zone and the North Pole. It is one of the coldest parts of the earth.

(5) The South Frigid zone, lying between the southern boundary of the South Temperate zone, and the South Pole. This is also one of the coldest parts of the earth.

N. B.—The two Frigid zones are also called the *Polar Regions*.

The accompanying diagram will indicate the situation of the five zones.



Questions.

1. Define Geography, and give the derivation of the word.
2. What is the importance of this science as a branch of knowledge?
3. Into how many parts has modern Geography been divided? Name them and define each of them.
4. What causes have led to the progress of geographical discovery in ancient and modern times?
5. What is the Solar System, and why is it so called?
6. What relation does the Earth bear to the Sun?
7. What fact determines the length of shadows cast in the light of the sun? Fully explain this.
8. What kind of heavenly body is the moon? What is its size and distance from the Earth? When is the moon said to be in apogee, and perigee?
9. What is the Milky Way? Name any other constellations you may know of.
10. How is it that a lunar month is longer than the time taken in one complete revolution of the moon?
11. Define—
Star, Planet, Asteroid, Satellite, Comet, Shooting Star, Aerolite, Orbit, Horizon, Zenith, Nadir, and Ecliptic.
12. What is the zodiac, and why is it so called? Name the twelve signs of the zodiac in Latin, English and Sanskrit or Arabic.

13. How would you describe the exact shape of the Earth?
 14. Give as many proofs as you can to show that the earth is round.
 15. How are differences in temperature produced by the curvature of the earth's surface?
 16. Into how many parts has the Earth been divided according to climate? Name them and indicate the situation and extent of each by means of a rough diagram.
-

CHAPTER II.

DAY AND NIGHT.

We have seen in the last chapter (at pages 9-10) that one result of the spherical form of the Earth is a variation in climate over different parts of its surface. We shall see in this chapter that another result of the same is the succession of day and night.

1. **What is Rotation.**—Apart from its motion accompanying the Solar System through space (of which we know very little), the Earth has two movements: (1) a spinning motion upon its own axis,* called *rotation*; and (2) a circular motion round the sun, called *revolution*.

2. **Proofs of Rotation.**—The following are the two most important reasons for concluding that the Earth turns on its axis:—

(1) The sun, the moon, and the stars are observed to appear in the east, to rise higher in the heavens, and after passing across the sky, to disappear in the west every day. This must be due to the Earth's rotation, for otherwise

* The *Axis* is the imaginary line drawn through the centre about which the Earth rotates.

those heavenly bodies would require to move at an incredible velocity, to enable them to circle round the Earth in 24 hours.

(2) The Earth is slightly flattened at the poles and slightly bulging at the Equator. Geology tells us that the Earth was once composed of molten matter, and this is the shape which a soft body takes when rotated swiftly on its axis.

3. Result of Rotation : Succession of Day and Night.—The most important result of the rotation of the Earth upon its axis is the succession of day and night. Since the Earth is a sphere, the sun shines on only one-half of it at one time ; and so one-half of the globe will be in darkness while the other half will be in light. As the earth turns round on its axis, every part of its surface is successively brought before the sun, and, after a time, removed from it. When one side of the earth is facing the sun, we call it *Day*, and when it is away from the sun, we call it *Night*.

The phenomenon of the succession of day and night can be easily illustrated by means of an ordinary school globe and a lamp.

4. Direction of Rotation.—The direction of the Earth's rotation is from west to east, and hence it is that we feel the sun to be moving from east to west, *i. e.*, in the opposite direction, just as when travelling in a railway train, the telegraph posts and trees appear to be flying in the opposite direction.

5. **Time taken in Rotation.**—The time taken for the Earth to make one complete rotation round its axis is 24 hours, *i. e.*, one full day. Hence Rotation is called the “*diurnal* motion of the Earth.”

6. **Speed of Rotation.**—The speed of rotation varies at different parts, being *nil* at the Poles, and greatest at the equator, where it is about 1000 miles an hour.

Questions.

1. What two motions does the Earth perform ?
2. Explain the phenomenon of the succession of day and night.
3. Why is it that we feel the sun to be moving from east to west, if it is the Earth that is moving ?
4. What is the time taken in rotation ?
5. Where is the speed of rotation greatest ? Where least ?

CHAPTER III.

THE SEASONS.

We have seen that the Earth moves round its own axis, producing the succession of day and night. In addition to this motion, the Earth performs another, namely, a circular motion round the sun, called *revolution*.

1. **What is Revolution.**—Revolution is the Earth’s annual motion round the sun, which it performs in addition to its diurnal motion upon its own axis.

2. **Time taken in Revolution.**—The time which the Earth takes to perform one complete revolution round the sun, along its fixed path or orbit, is $365\frac{1}{4}$ days, *i. e.*, one full year. Hence Revolution is also called the “*annual* motion of the Earth.”

As it is not convenient to count the $\frac{1}{4}$, it is left out, and every four years, an additional day (February 29th) is put

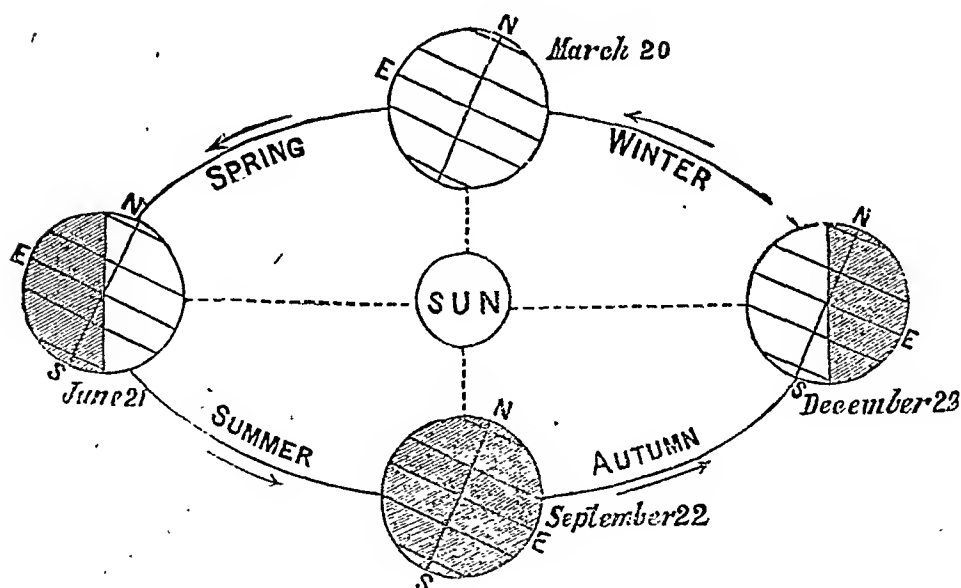
in to make up for the four quarters which are thus left out of account. The year having this extra day is called a *Leap year*.

3. **Proof of Revolution.**—The Earth's revolution round the sun is proved by the fact that we see different stars overhead at night at one time of the year from what we see at another.

4. **Result of Revolution: Change of Seasons.**—The Earth's revolution round the sun causes the change of seasons known as Summer, Winter, Spring, and Autumn. To understand this, we must first learn that the Earth's axis is not perpendicular to the plane of its orbit, but slightly inclined to it, so as to form an acute angle, and that this inclination is always in the same direction.

Fig. 3.

DIAGRAM TO ILLUSTRATE THE SEASONS.



While the Earth revolves round the sun, the North Pole (N) and the South Pole (S) are sometimes inclined *towards* the sun and sometimes *away from it*. When the North Pole *points towards* the sun (as in the left-hand figure of the above diagram), the northern hemisphere (the hemisphere *above* the line E or the equator) gets more light and heat than the southern (the portion *below* the line E or the equator), and the result is that there is summer in the northern and winter in the southern hemisphere. Similarly, when the North Pole *points away from* the sun (as in the right-hand figure of the above diagram), the northern hemisphere gets less light and heat than the southern, and the result is that there is winter in the northern and summer in the southern hemisphere. Between these two positions occur spring and autumn, (see top and bottom figures in the above diagram).

The above account of the revolution of the seasons would be clearer by assuming an impossible condition. Supposing the Earth's axis were at right angles to the plane of its orbit, what would be the result? The sun would always rise due east and set due west, and at the Equator, would pass right overhead every day. Day and night would be equal all over the Earth, and at all times of the year, and at midday the sun would always be exactly the same height in the heavens. Now the change of the seasons is caused by the sun shining longer, and from a higher point in the heavens, on the northern hemisphere, for one half of the year, and on the southern hemisphere for the other half of the year; and this is due to the fact that the earth's axis is not at right angles to the plane of revolution, but cuts it obliquely.

5. **The two Equinoxes.**—The position of the Earth's axis with regard to the sun changes gradually all the year round, during the revolution of the earth round the sun. Twice every year, the position of the axis is such

that both the northern and southern hemispheres receive equal quantities of light and heat from the sun, and day and night are of equal length all over the world. These occasions are called the Equinoxes, (from Lat. *equi*, 'equal,' and *nox*, 'night'). One of these occurs in spring, on March 20th, and is called the Vernal Equinox; the other occurs in autumn, on September 22nd, and is called the Autumnal Equinox.

In the Diagram at page 15 the top figure represents the Vernal Equinox and the bottom figure the Autumnal Equinox.

6. **Midsummer and Midwinter.**—After the vernal equinox the northern hemisphere begins to get more light and heat, and the days in that part of the world gradually grow longer, until about June 21st, they are at their longest. The period round June 21st is therefore called Midsummer. From that date the days begin to grow shorter, until at autumnal equinox, days and nights are of equal length again. After that, the nights grow longer than the days, till about the 23rd of December days are shortest and nights longest. The period round December 23rd is therefore called Midwinter.

In the southern hemisphere the reverse of this process goes on, so that Midsummer falls in December and Midwinter in June.

7. **The two Solstices.**—The changes in the length of day and night that go on during the year correspond with certain apparent movements of the sun. During the first half of the year (January to June), the sun ascends

higher in the sky every day. At the vernal equinox, he is highest at noon over the equator. On midsummer day, he shines directly over the Tropic of Cancer.* Here he seems to stay for a few days, and hence this time of the year is called the Summer Solstice.† He then begins to descend in the sky, till at the autumnal equinox he is again over the equator. On midwinter day, he shines directly over the Tropic of Capricorn.‡ Here he again seems to stay for a few days, and so this time of the year is called the Winter Solstice.

In the southern hemisphere the reverse of this process goes on; the summer solstice occurring when the sun shines on the Tropic of Capricorn, and the winter solstice when he is on the Tropic of Cancer.

* An imaginary line forming the northern boundary of the Torrid Zone.

† The word *Solstice* is derived from Lat. *Sol*, 'the sun,' and *sto*, 'I stand.'

‡ An imaginary line forming the southern boundary of the Torrid Zone.

I.—The Seasons.

Inclination of the Pole.	Resulting season in Northern Hemisphere.	Resulting season in Southern Hemisphere.	Inclination of the Pole.	Resulting season in Northern Hemisphere.	Resulting season in Southern Hemisphere.
North Pole inclined <i>towards</i> the sun,	Summer.	Winter.	North Pole inclined <i>away from</i> the sun,	Winter.	Summer.
South Pole inclined <i>away from</i> the sun.			South Pole inclined <i>towards</i> the sun.		

II.—Length of Day and Night.

Date.	Name of Season.	Length of Day.	Length of Night.	REMARKS.
20th March ...	Vernal Equinox.	Equal.	Equal.	In the interval, days grow longer and nights shorter.
21st June ...	Midsummer.	Longest day.	Shortest night.	From this date days grow shorter, nights longer.
22nd September ..	Autumnal Equinox.	Equal.	Equal.	Days continue to grow shorter, and nights longer.
23rd December ...	Midwinter.	Shortest day.	Longest night.	From this date days grow longer, nights shorter.

III.—Position of the Sun.

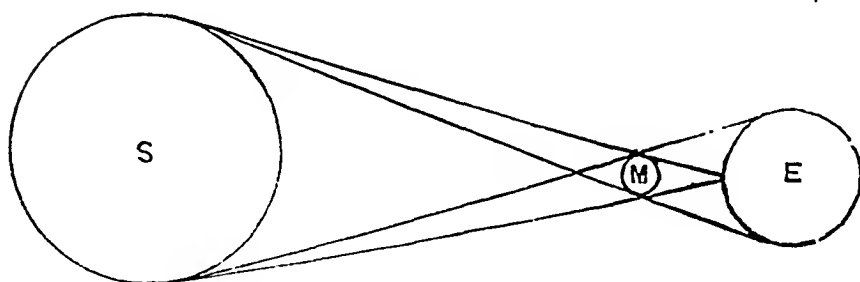
Name of Season.	Position of the Sun.	Quarter of the Globe.
(1) <i>Motion towards the North.</i>		
Vernal Equinox (March 20.)	In the zenith ...	On the equator.
Midsummer day (June 21.)	Vertical ...	Tropic of Cancer [Here comes the summer solstice.]
(2) <i>Motion towards the South.</i>		
Autumnal Equinox (September 22.)	In the zenith ...	On the equator.
Midwinter day (December 23.)	Vertical ...	Tropic of Capricorn [Here comes the winter solstice for the northern hemisphere.]

CHAPTER IV.

ECLIPSES.*

1. **Solar Eclipse:** How caused.—A Solar Eclipse is caused when the earth comes in the shadow of the moon cast by the sun. Figure (1) illustrates the phenomenon.

Fig. 1.

Eclipse of the sun. *S* (sun) : *M* (moon) : *E* (earth).

S is the sun, *M*, the moon, *E* the earth. the shadow being represented by the shaded area. that with a thick or

* This chapter has been mainly contributed by my learned colleague, Prof. Sohan Lal Srivastava, M. A., B. Sc.

double shading representing the full shadow or *umbra*, while that with the light or single shading representing the *penumbra*, or half shadow. From a point on the earth's surface lying in the penumbra, a portion only of the sun is visible, and a partial eclipse, as shown in fig.

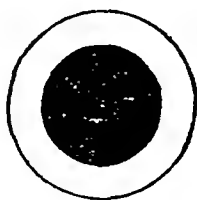
(2) is observed at that point, while if any part of the earth's surface lies in the umbra, a total eclipse of the sun is observed there, no light coming to the place from the sun. From the relative sizes of the sun and the moon, and their distances apart, it appears that the umbral cone of the moon's shadow ends on or about the earth's surface. Thus when the

Fig. 2.



umbra comes to a point a little way inside the earth, a circular area on the earth's surface, a few hundred miles in radius, only lies in the umbra and observes a total eclipse. On the other hand, in most eclipses, the distances apart are such that the full-shadow cone ends just *before* reaching the earth. In this case a circular area just below the apex of the shadow-cone receives light from only the peripheral (or marginal) portions of the sun, and there is observed an '*annular*' eclipse, as shown in figure (3).

Fig. 3.



[Now if the sun and the moon followed the same track in the heavens. there would be an eclipse of the sun every new moon, but owing to the

slight inclination of the two orbits, *viz.*, the orbit of the moon and the ecliptic of the sun, the moon will generally pass above or below the sun's apparent path, and there will be no eclipse. The two orbits, however, cut each other at two points called the 'nodes' of the moon, and it is only when the sun in its apparent yearly course is in the neighbourhood of one of these nodes, that solar eclipses are possible. Thus twice a year, at least, a solar eclipse should be visible at some part of the earth's surface].

2. **Lunar Eclipse : How caused.**—A Lunar Eclipse is caused when the moon falls in the earth's shadow. The earth being much larger than the moon, its shadow extends far beyond it, and where it reaches the moon, it is always so much larger than the latter that it may be wholly immersed in it. Now the centre of the shadow cast by the earth must lie in the plane of the ecliptic, and the size of this shadow at the moon's distance must be small compared with the earth, owing to the sun being so big; hence there is a great chance for the comparatively smaller moon to escape this small shadow, and avoid an eclipse, which should only take place when the moon in its course is *very* near the ecliptic. This accounts for the fact that lunar eclipses are rarer than solar ones. When the moon passes centrally through the earth's umbra, a total eclipse of the moon is observed; but when it crosses the umbra a little to one side (above or below), only, the part immersed is hidden from view, and there is a partial eclipse. If the moon or any portion of it lies in the penumbra, a being standing on the moon would see a partial eclipse of the sun, but at the earth no lunar eclipse is seen. The moon in this position receives light from only a portion of the sun, and consequently appears paler. [This is what is meant where in Almanacs it is written 'moon enters penumbra.']

3. Annular Eclipse of the Moon impossible.—

One thing must be noted in connection with lunar eclipses, *viz.*, whereas an *annular solar* eclipse may under certain conditions be seen, as already mentionēd, an *annular lunar* eclipse is impossible. The reason is obvious. The earth's umbral cone, on account of its size, comes to a point much beyond the moon, and in no case can it end *in front of* the moon, which is the essential condition for the annular eclipse to be observed.

4. Duration of Eclipses.—An eclipse can never be annular longer than 12 minutes, 24 seconds; nor can a total eclipse last longer than 7 minutes, 58 seconds; nor again can the entire duration of an eclipse of the sun ever exceed two hours.

5. Direction of process of darkening in an Eclipse of the Sun and Moon.—An eclipse of the sun begins on the *western* side of his disc and ends on the eastern: while an eclipse of the moon begins on the *eastern* side of her disc and ends on the western.

6. Average number of Eclipses in a year.—The average number of eclipses in a year is four, two of the sun, and two of the moon; and as the sun and moon are as long below the horizon of any particular place as they are above it, the average number of *visible* eclipses in a year is two, one of the sun and one of the moon.

Questions.

1. What do you understand by the earth's *revolution*? How would you distinguish between revolution and rotation?
 2. What is a Leap year? How is it caused?
 3. How do you infer that the earth moves round the Sun?
 4. Explain clearly the phenomena of the revolution of the Seasons, and illustrate your remarks by means of a diagram or diagrams.
 5. Why is it summer in the northern hemisphere when it is winter in the southern?
 6. What are the Equinoxes? Why are they so called? When do they occur, and how are they caused?
 7. What period is known as midsummer and midwinter? What particular day of the year would you call midsummer day and midwinter day, and why?
 8. Why are summer days long and winter days short?
 9. What are the *Solstices*? When do they occur and why are they so called?
 10. Describe the various positions of the sun during the different seasons of the year and over the different parts of the earth.
 11. Explain how eclipses of the sun and moon are caused.
 12. Account for the fact that lunar eclipses are rarer than solar ones.
 13. Why is an annular eclipse of the moon impossible?
 14. What is the duration of an eclipse?
 15. From what side does an eclipse commence in the case of the sun and moon each?
 16. What is the average number of eclipses in a year?
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PART II.

MATHEMATICAL GEOGRAPHY.

INTRODUCTION.

1. **The earth as a Globe.**—Mathematical Geography treats of the Earth as a globe marked with certain imaginary points and lines upon its surface. These points and lines are necessary not only for the purpose of fixing accurately the position of places on the earth's surface, but also for the purpose of describing correctly the effects of the earth's diurnal and annual motions.

2. **The Earth's Diameter and Circumference.**—The diameter of the Earth from east to west is 7926 miles, and its circumference 24,900 miles. The diameter from north to south is about 26 miles less than the diameter from east to west, on account of the flattening at the two Poles.

3. **How are parts of the Earth's surface measured.**—Since the earth is a sphere, parts of it have to be measured like parts of a circle. Now all circles, great and small, are regarded as being divided into 360 degrees; every degree is divided into 60 minutes, and every minute into 60 seconds. *Degrees* are indicated by a small zero ($^{\circ}$); *minutes* by a single dash ($'$), and *seconds* by a double dash ($''$). The half of a circle, or *semicircle*, measures 180° . The fourth part of a circle, called a *quadrant*, measures 90° .

CHAPTER I.

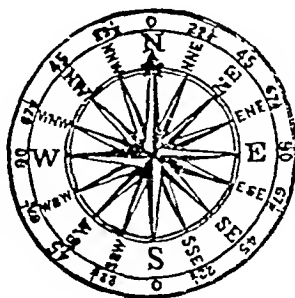
LATITUDE AND LONGITUDE.

1. **The Mathematical Points.**—The chief of the imaginary points marked on the surface of the globe are the two *Poles*, and the *Four Cardinal Points*.

(a) **The Poles.**—The Poles are the two extremities of the Earth's axis. One of these, being always turned towards the northern part of the celestial sphere, is called the *North Pole*;* the other, being always turned towards the southern part of the heavens, is called the *South Pole*.

(b) **The Four Cardinal Points.**—In order to express direction, we need to have certain fixed points in space. These are called the *four cardinal points*, or, *points of the compass*—namely, North, South, East and West. The East is easily determined, as being the direction where the sun rises. If we stand with our back to the rising sun, the West would be in front of us, the North to our right hand, and the South to our left. But the scientific manner of determining these points is by means of an instrument called the *Mariner's Compass*, containing a magnetic needle which always points to the north. The following is a sketch of the dial of a Mariner's compass :—

Fig. 4.
THE MARINER'S COMPASS.

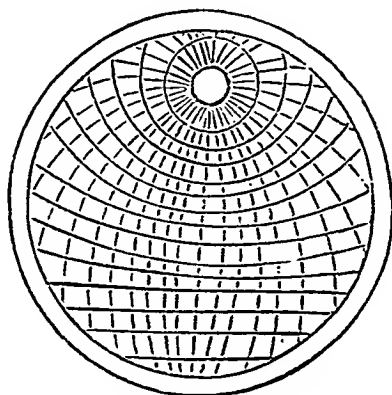


* The North Pole, which is buried in ice, is alleged to have just been discovered by Dr. Cook, an American explorer.

We see from the above diagram that these cardinal points divide the horizon (which is always in the form of a circle) into four equal parts, and that therefore two straight lines drawn from North to South and East to West would cut each other at right angles. We also see that the intermediate points may be named in terms of the four cardinal points, *e. g.*, 'north-east,' which means the direction midway between the north and east; 'north-north-east,' which means the direction between north and north-east; &c. We also see that the four right angles formed by the intersection of NS and EW have each been divided into four parts, so that the distance between one point and the next is $22\frac{1}{2}^{\circ}$.

2. **The Mathematical Lines.**—The chief of the imaginary lines marked on the surface of the globe are—the *Equator*, the *Meridians*, or *Lines of Longitude*, and the *Parallels of Latitude*. All of these run round the globe, and are either "great circles," *i. e.*, those that cut the globe into two equal hemispheres, or "small circles" *i. e.*, those that cut it into two unequal parts.

Fig. 5.
LATITUDES AND LONGITUDES



(a) **The Equator.**—The *Equator* is an imaginary great circle drawn round the globe, exactly midway between the Poles. It

thus divides the earth into two equal parts, the one north of the equator being called the *Northern Hemisphere*, the other south of it being called the *Southern Hemisphere*. The latitude of places is measured from the Equator, north and south; and their longitude on the Equator, east and west.

(b) *The Meridians.*—The *meridians* or *lines of longitude*, are great circles passing through the Poles and cutting the equator at right angles. Each of them divides the earth into two equal hemispheres, which, in respect of each other, may be called the Eastern and the Western Hemisphere. Any point on the earth's surface may have its own meridian. The number of possible meridians is thus unlimited; but in practice there are only 24 such meridians usually described upon school globes, and they are placed at intervals of 15° apart.

These circles are called *Meridians* or *midday circles*, because they pass through every place which has midday or noon at the same instant. As the earth rotates from west to east, only those places which lie due north or south of one another can have midday at the same time, or be on the same meridian; but those places which lie due east and west of one another, coming consecutively under the sun, have different meridians, *i. e.*, have midday at different times.

(c) *The Parallels of Latitude.*—These are small circles drawn parallel to the equator. All those places on the earth's surface, which are due east or west of one another, are on the same parallel. But all those places which are situated at different distances from the equator, or north and south of one another, have different parallels. Virtually, therefore, there is no limit to the number of parallels. But as a matter of fact, they are usually drawn upon maps and globes at intervals of 10° apart.

Four of these parallels occupy definite positions on the globe, and are distinguished by special names. These are:—

(1) *The Tropic of Cancer*, which lies $23\frac{1}{2}^{\circ}$ North of the equator;

(2) The Tropic of Capricorn, which lies $23\frac{1}{2}^{\circ}$ South of the equator;

N. B.—These two Parallels are called *tropics*, from the Greek word *trepein*, 'to turn,' because when the sun in his apparent path arrives at one of these lines, he turns back and pursues an opposite direction. The northern tropic is called the Tropic of Cancer because the constellation called Cancer is over this line; the southern is called the Tropic of Capricorn, because the constellation called Capricorn is over this line.

(3) The Arctic Circle, which lies $23\frac{1}{2}^{\circ}$ from the North Pole;

(4) The Antarctic Circle, which lies $23\frac{1}{2}^{\circ}$ from the South Pole.

N. B.—The Arctic circle is so called from the Greek word *arktos*, 'a bear' because the constellation called the Great Bear is over that circle. The Antarctic circle is so called because it is directly opposite the arctic, from Greek *anti*, 'against.'

These four constant parallels determine the division of the earth's surface into five great climate zones :—*

(a) The *Torrid Zone*, running round the centre of the globe, and bounded by the Tropic of Cancer on the north and the Tropic of Capricorn on the south.

(b) The *North Temperate Zone*, bounded by the Arctic Circle on the north and the Tropic of Cancer on the south.

(c) The *South Temperate Zone*, bounded by the Antarctic Circle on the south and the Tropic of Capricorn on the north.

(d) The *North Frigid Zone*, bounded by the N. Pole on the north and the Arctic circle on the south.

(e) The *South Frigid Zone*, bounded by the S. Pole on the south and the Antarctic Circle on the north.

3. Latitude and Longitude : How to determine the position of a place.—In order to give the position of a place we must state its latitude and longitude.†

* See p. 11 above.

† The terms *latitude* (meaning 'breadth') and *longitude* (meaning 'length') were adopted into the science of geography before the spherical form of the earth had been demonstrated.

Latitude is distance in degrees measured north or south from the equator along a meridian. Longitude is distance in degrees measured east or west along the equator from the *prime meridian* or that from which we agree to count, for the number of possible meridians is infinite. The prime meridian for the British Empire is the meridian of Greenwich, a place near London having a famous observatory.

Latitude runs from 0° at the equator to 90° at each of the poles. Hence the nearer the poles the higher the latitude. *Longitude* runs from 0° at Greenwich to 180° where the meridian circle again cuts the equator on the other side of the world, that is, exactly half-way round the world from the first meridian, 180° west being the same meridian as 180° east.

For example, in order to give the exact position of Calcutta we must say that it is in Lat. 22° N., and Long. 88° E. This means that it is situated on the spot where the 22° parallel of North latitude cuts the 88^th meridian of east longitude.

4. How to determine Longitude.—As the earth turns on its axis from west to east, at an absolutely uniform rate, every meridian is brought successively in front of the sun once every day. That is, 360° are turned round in twenty-four hours. This gives $\frac{360^\circ}{24}$ or 15° for each hour, 1° for every 4 minutes. We thus see that for every four minutes' difference between the time of a particular place and that of Greenwich, the difference in longitude between that place and Greenwich will be 1° . Now, to find out the longitude of a place we must find out the time of that place and this is done by observing the noon. The time at Greenwich at that instant is then obtained from a chronometer.

previously set to Greenwich time; and from the difference between the two times the observer may easily deduce his longitude east or west of Greenwich.

For example, suppose at noon the chronometer indicated Greenwich time to be 12-48, then the place would be $\frac{48}{4} = 12^\circ$ W. of Greenwich, -- *west*, because noon passes over that place *after* it has passed over Greenwich; and this again because the rotation of the earth is from west to east. Supposing the Greenwich time was 48 minutes to 12, the place would be 12° E. of Greenwich. *The rule is that noon comes 4 minutes earlier for each degree to the east, and 4 minutes later for each degree to the west, of Greenwich.*

5. How to determine Latitude.—The Latitude of a place north of the equator is determined by measuring the mean altitude of the Pole Star above the horizon. At the Equator, the Pole star is seen just on the horizon; at the distance of 69 miles to the north it is 1° above the horizon, and so for every degree of latitude passed over, the star rises 1° in altitude, until at the pole it would be just overhead. For example, if at a place the altitude of the Pole Star were found to be 40° above the horizon, then the place would be in 40° N. latitude.

6. How to calculate difference of time between two places.—We have seen that there is a difference of one hour for every 15° of distance between two places, or a difference of 4 minutes for every degree. The rule about finding out the difference in time between two places of

different longitude is :—Find the difference in degrees between the two places, and then divide this by 15 : you will thus get the number of hours making the difference in time. If the place is *east* of the given place, the time at it will be so many hours *in advance* : if *west*, so many hours *behind*. For example :—

(1) *Greenwich* is $80\frac{1}{4}^{\circ}$ west of Madras : Greenwich time is therefore $\frac{80\frac{1}{4}}{15}$ hours, or 5 hours 21 minutes behind Madras time : *i. e.* when it is noon at Madras it is 6—39 a. m. at Greenwich.

(2) *Adelaide* is in Long, 138° E., and therefore 58° E. of Madras : Adelaide time is thus $\frac{58}{15}$ hours or 3 hours 52 minutes in advance of Madras time, and $\frac{138}{15}$ hours or 9 hours 14 minutes in advance of Greenwich time.

(3) *Calcutta* is $8^{\circ}.5'$ E. of Madras : Calcutta time is therefore $8\frac{5}{60}$ h. or 33 minutes in advance of Madras time.

(4) *Bombay* is $7^{\circ}.26'$ W. of Madras : Bombay time is therefore $7\frac{26}{60}$ h. or 30 minutes behind Madras time.

Questions.

1. Define Mathematical Geography and distinguish it from Astronomical Geography.
2. Show that it is necessary to draw imaginary lines upon the surface of the globe in order to fix accurately the position of places.
3. What is the length of the Earth's diameter and circumference ?
4. How do we express the distance between one place and another upon the surface of the globe ?
5. What and where are the two Poles ?

6. Name the four Cardinal Points, and mention how they are determined.
7. Name the chief Mathematical lines usually drawn upon the surface of the globe.
8. What is the Equator?
9. What do you understand by meridians? Why are they so called?
10. What do you understand by the *Parallels of Latitude*? Name the four parallels that occupy fixed positions on the surface of the globe.
11. Explain the terms *Latitude* and *Longitude*, and state how the latitude and longitude of places are determined.
12. How would you calculate the difference in time between two places on the Earth's surface?

CHAPTER II.

MAPS AND MAP-MAKING.

1. **The System of Projections.**—A *map* is a representation of the earth, or some portion of it, on a flat surface. But to get a flat representation of any large portion of a curved surface is impossible, as one can easily see by trying to fit a sheet of paper to the surface of a globe. A flat map can therefore never be an accurate one. The difficulty is removed by means of a system called *projection*, by which a picture of each point on the globe is supposed to be *projected* or thrown forward on a piece of paper lying below it, or wrapped round it, so as to produce a map on a surface which is flat or which can be unrolled so as to be made flat.

2. **Practical Hints on map-drawing.**—Map-drawing is an essential element in the teaching of Geography. The successive steps in the evolution of a map are:—(1)

Latitude and Longitude ; (2) Coast-line ; (3) Mountains ; (4) Rivers ; (5) Towns ; and (6) the Lettering.

(1) **Latitude and Longitude.**—The first thing to do in drawing a map is to put in the lines of latitude and longitude. These must be drawn as light as possible, so that they will not disfigure the map. These lines must never be drawn straight, for the earth being globular in shape, the lines of latitude and longitude are represented as slightly curved lines on a flat map. Care must also be shown in noting correctly the degrees of latitude and longitude, and these are usually shown at the two ends of the lines.

(2) **Coast-line.**—Make a faint pencil mark wherever the coast-line touches or cuts the lines of latitude and longitude. Then complete the coast-line with the help of these dots, taking care (a) that you get a natural appearance ; (b) that you obtain the shapes and positions of important openings and capes correct ; and (c) that you do not draw the coast-line bit by bit. On completing the coast-line, insert the important islands lying off the coast in their correct positions, having regard to their comparative size.

(3) **Mountains.**—Sketch in the mountain ranges in faint pencil by means of wavy lines, or in the shape of herring-bones, as it is done in most maps. Take care that you correctly show their general direction and position. Mountain peaks should be shown by a small circle.

(4) **Rivers.**—Rivers are indicated by means of lines, and traced from their source in a hill or lake to their mouth near the sea shore, the lines representing them becoming thicker till they are thickest at the mouth. Care must be taken that (a) wherever a river breaks through a mountain range a break is left in the

mountains for that purpose ; (b) that you avoid an unnatural appearance by drawing your lines straight, for a river never flows in a straight line for any length of its course ; (c) that the junction of tributaries with rivers is indicated without causing unnatural angles.

(5) **Towns.**—Towns and cities are indicated on a map by means of dots, large or small according to the actual size of the places represented. The capital of a country must be represented by means of a *square* dot.

(6) **Lettering.**—Lettering a map is as important as it is difficult. The size of the letters used should be uniform throughout. Capital letters should only be slightly larger than the small ones. The surrounding countries and seas and oceans are named with letters rather larger than the other places. In maps of continents, or of a number of countries taken together, the name of each country should be inserted carefully. Each name should stand out boldly on its own country and should stretch approximately across the country. Take care that all letters belonging to one name are the same distance apart.

3. **The Scale.**—To have a true sense of distance, we must fix a scale representing a certain number of miles to every inch of the map's surface. A map on a large scale may, for instance, allow an inch to every five or ten miles of geographical space, whilst one on a small scale may only allow an inch to every 100 or 200 miles. Thus maps of a whole continent or a single country may be of the same visible size if drawn to different scales.

PART III.

PHYSICAL GEOGRAPHY.

INTRODUCTION.

The term Physical Geography, ordinarily means a description of the physical features of the earth. It includes an account of the phenomena of the atmosphere ; of the composition, distribution and movements of the sea ; of the forms of the land, with its water circulation, earthquakes and volcanoes ; of the distribution of plant and animal life. Its object however is not to present a mere bald enumeration of facts, but to group the facts together in such a way as to bring before the mind a clear picture of the whole structure and working of the earth as a habitable planet. Physical Geography is not so much a science or branch of science as a collection of the data ascertained, and probable conclusions arrived at by different sciences, in so far as these bear upon its own subject.

In brief, Physical Geography is concerned with the various phenomena presented by the Land, the Sea, and the Air. Each of these will be treated in a separate chapter.

CHAPTER I.

THE LAND SURFACE.

SECTION I.—FORMATION OF THE EARTH'S SURFACE.

1. The original shape of the earth.—Geologists tell us that the earth was, in the earlier stages of its existence,

a flaming body like the sun. In the course of ages the upper surface gradually cooled down, and the materials of which it was composed, previously in a molten state, became firm enough for man to live on. But the interior still retains its former intense heat, as is proved by volcanoes, hot springs, the interior of mines, &c.*

2. **Rocks.**—The earth's crust consists chiefly of rocks. Rocks are divided into two chief classes :

(1) **Stratified Rocks**, are those that are arranged in strata or layers. These are also called **Sedimentary** or **Aqueous**, according as they are believed to have been formed by rock deposits or by the action of water. Such rocks compose the greater portion of the earth's surface, and sometimes contain remains of plants and animals (called *fossils*) imbedded in them, and thus are of great value in the study of the earliest history of the earth.

Sandstone, limestone, chalk, coral, rock-salt, peat, and coal are common examples of stratified rocks.

(2) **Unstratified Rocks** are those that are found in shapeless masses without any sort of arrangement. They are also called **Igneous**, being regarded as having been formed by the agency of fire, at a time when the earth's crust was still very hot. Hence they are generally glassy or crystalline in appearance.

Some of these have been ejected from volcanoes, as *lava* and *volcanic ashes*, while others have cooled and solidified under great pressure beneath the surface, *e. g.*, *granite*.

* Compare Tennyson :

“ They say,
The solid earth whereon we tread
In tracts of fluent heat began,
And grew to seeming-random forms,
The seeming prey of cyclic storms,
Till at the last arose the man ; ”
— *In Memoriam*, cxviii.

(3) There is a third class of rocks, called *Metamorphic Rocks*, which are stratified rocks altered (or *metamorphosed*) by heat, pressure, or chemical action, into a crystalline structure; *e. g., marble, slate.*

3. *Forces changing the Earth's crust.*—The earth's crust is undergoing constant change. Various forces, internal and external, are always working changes. These forces may be considered under two heads—internal and external :—

(1) *Internal forces.*—The internal forces are :—

- (a) *Sinking or rising* of portions of the earth's surface ;
--as for example the shores of Sweden near Stockholm have risen during the present century, and several parts of the coast of England are sinking.
- (b) *Earthquakes*, which are probably due to (i) the breaking of rocks in the interior of the earth during the process of cooling ; (ii) explosions caused by sea water entering the heated interior of the earth ; (iii) falling in of hollows in the interior of the earth.
- (c) *Volcanoes*, or mountains emitting molten fire (called *lava*) from an opening near their top.

(2) *External forces.*—The external forces are :—

- (a) The *wind*, which breaks up and crumbles away rocks to pieces, and thus helps to form what is called *soil* ; it also heaps up sand into hills.
- (b) The *rain*, which loosens the soil and washes away mud which deposits in the form of *silt*. Rain also soaks in the ground and forms *springs*.

(c) *Rivers*, which cut their own channels, and with the materials they carry down, form fertile tracts called alluvial plains; they also sometimes form tracts of new land at their mouth by depositing silt, such tracts being called a Delta.

(d) *Frost*, which turns the water collected in hollows into ice, and this ice sometimes flows in the form of a frozen river, called a Glacier. Masses of ice are sometimes broken away from a glacier and float about the ocean, and are called icebergs.

(e) The *sea*, which dashes against rocks and breaks them into pebbles or grinds them into sand.

4. **Formation of Soil.**—Soil is the upper part of the earth's crust in which vegetation grows. It is formed by the gradual breaking up of rocks, which is caused by —

(a) atmospheric changes, such as rain, frost, heat and cold;

(b) the action of the roots of plants;

(c) the operations of animals that live under the ground.

Changes of heat and cold cause the rocks to crack, water finds its way in, and by dissolving the soluble matter, causes the remainder to crumble. This crumbling is aided by the action of frost. Water sinks into the ground, freezes, expands, and thus breaks up the rock.

SECTION II.—DEFINITIONS OF LAND TERMS.

(1) A **Continent** is a vast continuous mass of land entirely surrounded by sea; *e. g.*, Asia, Europe.

There are six continents—Asia, Europe and Africa forming one long and compact mass, known as the *Old World*; North and South America forming the second great mass, known as the *New World*; while the third mass, which is much smaller than the rest, is called *Australia*.

A Country is a particular part of a continent; *e. g.*, India, France.

(2) An Island is a spot of land surrounded by water, *e. g.*, England.

(a) A small island in the sea is called an Islet.

(b) A small island in a river is called an Eyot.

(c) Islands lying near each other are called a Group or cluster, *e. g.*, the Hebrides, to the west of Scotland.

(d) When the islands forming a group are very numerous, the sea containing them is called an Archipelago. But the term is now commonly employed to denote not the sea, but the islands with which the sea is studded.

Islands may be divided into two classes:—(i) Oceanic Islands, are those that are situated at a great distance from the continental masses of land; (ii) Continental Islands, are those that lie near the continents of which they really form a part, and are separated from them by shallow channels.

(3) A Peninsula is a mass of land almost surrounded by water, *e. g.*, Italy, Spain, India.

(4) An Isthmus is a narrow strip of land connecting two larger portions of land, *e. g.*, the Isthmus of Panama connecting North and South America.

(5) The Contour of a country is its outline as represented on an ordinary map.

(a) Coast is the side or border of land next the sea.

(b) Shore is the dividing line between the water and land.

(c) The shores or margins of oceans, seas, lakes, and sometimes of large rivers, are called **Strands**.

(d) The border or shore of the sea is called the **Seaboard**.

(e) That part of the sea-shore which is overflowed by the tide is called the **Beach**.

(6) A **Cape** is a head or point of land jutting into the sea, e. g., Cape Comorin.

A cape is also called a **Head**, as Fair Head in Ireland ; a **Foreland**, as North and South Foreland in Kent ; a **Point**, as Hartland Point in North Devon ; a **Naze** or **Ness**, as the Naze south of Norway ; a **Bill**, as Portland Bill, south of Dorset ; a **Mull**, as Mull of Contire, in Argyleshire.

Lofty and precipitous capes are called **Promontories**.

(7) A **Mountain** is a heaped-up mass of the earth's surface which towers above the adjacent district to a great height.

(a) When the land rises only to a moderate height it is called a **Hill**.

(b) When mountains extend for a considerable length in one direction, and have the same base they form a **Chain** or **Range**.

(c) When several mountains cover a wide area, and have the same base, they form a **Group**.

(d) A number of mountain ranges connected by a common base form a **Mountain-System**.

(e) The lowest part of a mountain is called the **Base**, the highest part its **Summit**, and the loftiest peak of a mountain ridge, its **Culminating-point**.

(f) **Volcanoes** are mountains which send forth smoke, flame, ashes, &c.

- (i) Those volcanoes which are in an incessant state of eruption are called **Active**.
- (ii) Those which have longer or shorter periods of repose are called **Intermittent**.
- (iii) Those of which there is no recorded instance of activity are called **Extinct**.
- (iv) Volcanoes which emit streams of mud are called **Salses**.
- (v) Those that emit jets of hot water are called **Geysers**.
- (vi) Those that emit sulphur and various vapours are called **Solfataras**.

(8) A **Pass** or **Defile** is a sudden depression near a mountain chain, serving as a passage from one side to the other; e. g., the Khyber Pass.

(9) A **Glacier** is a huge mass of ice formed on the side of a mountain or in a deep elevated valley.

The great accumulations of earth, stone, gravel, &c., which fringe the sides and lower ends of glaciers are called **Moraines**.

(10) An **Avalanche** is a huge mass of snow running down the steep side of a mountain into the valley below.

(11) A **Plateau** or **Tableland** is a large tract of level land considerably elevated above the level of the sea.*

(12) A **Highland** is a region composed of a series of irregular elevations separated by valleys.

A **Lowland** is a region which is depressed with respect to the neighbouring country.

* Some Geographers apply the term *plateaux* only to those elevations of the land which display a marked difference in climate and vegetation from the country around them.

(13) A Plain is a stretch of nearly level country.

(a) When a plain lies between two elevated portions of land it is called a Valley.

(b) A wet plain is called a Swamp, a Bog, or a Marsh.

(i) The swampy plains near the Poles are called Tundras.

(ii) The sandy heath plains in south-west France are called Landes.

(iii) The vast treeless plains of Russia are called Steppes.

(iv) The grassy plains of North America are called Prairies.

(v) The wet plains of North America are called Savanahs.

(vi) The forest plains of South America are called Salvas.

(14) A Watershed or Waterway or Waterparting is an elevated region or mountain ridge, from whose sloping sides waters flow forth in contrary directions, forming rivers, which drain the countries through which they pass.

(15) A Desert is a large tract of rainless, treeless land incapable of producing food for man and beast, and hence not suited for habitation.

An Oasis is a verdant spot in a sandy desert, affording water and shade for travellers.

(16) The Snow-line is the lowest limit of height at which snow remains throughout the year without melting. (The height of the snow-line varies with the latitude, being higher in warm and lower in cold countries.*)

* At the Equator the snow-line is about 16,000 feet; on the Alps it is about 9,000 feet; in Lapland it is only 3,000 feet; while in Spitzbergen it comes nearly to the sea-level.

(17) A **Cave** or **Cavern** is a deep hollow in the side of a mountain, and is generally found in districts abounding in limestone rocks.

Limestone caverns are famous for the curious formations known as *Stalactites* and *Stalagmites*. *Stalactites* are masses of limestone rock, dissolved by the action of water, and hanging from the *roof* of a cavern. *Stalagmites* are similar masses of limestone rock deposited on the *floor* of a cavern.

(18) The **Relief** of a country means the elevations and depressions of the earth's surface, forming plateaux, mountain chains, and valleys.

SECTION III.—VOLCANOES.

1. **How volcanoes are formed.**—The interior of the earth is still full of molten matter, and communicates with the earth's surface by openings. If these openings are blocked, or if water somehow enters the heated interior, so much steam is generated that it forces its way up the opening, clearing it from debris, and carrying volcanic dust and ashes high into the air. This is followed by a stream of melted rock, called lava. A volcano is thus formed of the matter which has been forced up from the interior of the earth through an opening in its crust.

2. **Shape of volcanoes.**—All volcanoes are more or less *conical* in shape, and this is due to the fact that the matter forced up during an eruption falls round about the opening.

3. **The 'crater' of volcanoes.**—When the volcano is not in eruption, the opening is closed, or nearly so, at the top, so that a cup-like basin is formed, called the *crater*.

SECTION IV.—EARTHQUAKES.

1. **What is an Earthquake.**—An earthquake is an upheaval of the ground in a series of waves travelling in every direction from a central spot in the interior of the earth disturbed by some subterranean agency. This centre of disturbance is now known to be seldom more than ten miles from the surface. The waves may be so light as to be scarcely perceptible, or so strong as to shake down huge buildings. They sometimes permanently raise or depress portions of the land, or cause great hollows to appear in the surface.

2. **How earthquakes are caused.**—Earthquakes are probably caused by the breaking of the strata under the strain of the contraction caused by the cooling of the earth's crust, by the sudden generation and expansion of steam; they may be due to the actual sinking of portions of the crust.

3. **Connection between Earthquakes and Volcanoes.**—Earthquakes seem to be closely connected with volcanoes, as we find that violent earthquake shocks frequently accompany volcanic eruptions, and that the most destructive earthquakes have occurred in volcanic districts.

4. **Where earthquakes are prevalent.**—Earthquakes occur most commonly in volcanic districts. Prof. Hutton, the greatest authority on earthquakes, says: "Wherever we find mountains which are geologically young, where the process of rock-folding may yet be in progress, there we find earthquakes. Should these regions of rock-movement be near a sea or an ocean, we also find volcanoes."

In the Eastern Hemisphere, the tract of land extending from the Azores through the Mediterranean, Asia Minor, and the great tableland of Asia to Japan, is most subject to earthquakes ; in the Western Hemisphere, the line of the Andes is the part most subject.

The two most disastrous earthquakes in modern history were (1) the Lisbon earthquake of 1755, and (2) the Kingston (Jamaica) earthquake of January 1907.

Questions.

1. What subjects fall within the scope of Physical Geography ?
 2. State the geological theory about the formation of the earth's surface.
 3. What is the earth's surface generally composed of ? Name the various kinds of rocks, and define each of them.
 4. Classify and enumerate the various forces tending to change the earth's surface.
 5. Define Archipelago, and distinguish between Continental and Oceanic islands.
 6. Define Isthmus, Promontory, Glacier, Avalanche, Waterparting, and Contour.
 7. Explain the terms—Salses, Geysers, Landes, Steppes, Salves, Tundras, and Savannas.
 8. What is meant by the *relief* of a country ?
 9. What is the *Snow-line*, and what circumstances affect its height ?
 10. Define a Cavern and distinguish between Stalactites and Stalagmites.
 11. Explain how the earth's soil is formed.
 12. What is a volcano ? How is it formed ? Of what shape is it generally ? What is its crater ?
 13. What reasons are there for believing that earthquakes and volcanoes are allied phenomena ? How are earthquakes caused ?
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CHAPTER II.

THE SEA SURFACE.

The water surface of the Earth means the *ocean*, a term which comprehends the entire body of water surrounding the globe.

SECTION I.—THE SEA.

1. **Extent of the Sea Surface.**—The water surface of the earth is nearly three times as extensive as the land surface, and lies chiefly in the southern hemisphere. Taking the earth's total surface as measuring 197 million square miles, the water surface occupies an aggregate area of 145 million square miles. This gives a proportion of $\frac{11}{16}$ of water to $\frac{5}{16}$ of land.

2. **Depth of the Sea.**—The depth of the sea is measured by an instrument called the *Sounding-line*. The greatest depth of the ocean that has been measured is 31,000 feet. The average depth does not exceed 2,000 fathoms or 12,000 feet. The average level of the land area is far less than the average depth of the water area.

3. **The Sea Level.**—The whole of the water surface of the earth forms a true *natural level*, forming the limit from which all elevations of land and depths of the sea are measured. The "sea level" forms the basis of calculation in all measurements of height and depth. In speaking of the elevation of a place we say it is so many feet above the sea level.

4. **The Saltness of the Sea.**—The water of the sea has a very disagreeable taste, partly bitter and partly salt. This saltness is explained in various ways :—

(1) that it is due to vast beds of salt existing at the bottom of the sea ;

(2) that salt is carried to the sea by rivers, which acquire it in the course of their formation.

(a) **Proportion of Salt in Sea Water.**—Generally speaking the quantity of salt is from $3\frac{1}{2}$ to 4 per cent. of the entire volume. As the sea evaporates as much pure water as it receives from rivers and rainfall, and salt, being incapable of evaporation, is left behind, it follows that the proportion of salt is constantly increasing.

(b) **Advantages of the Saltness of the Sea.**—The saltness of the sea preserves its waters from corruption, and by increasing its density, renders it a suitable element for supporting various forms of life, and for the floating of large ships upon its surface.

5. **Colour of the Sea.**—The colour of the sea, at a distance from land, is a deep bluish-green, caused by the circumstance that the sea reflects more of the green rays of the sun's light than others which are to a large extent absorbed.

6. **Temperature of the Sea.**—The temperature of the sea is higher and more uniform in the same regions than that of land. This is due to two causes :—

(1) water is not heated by the sun so quickly as the land, and when heated, takes a much longer time to cool ;

(2) the waters of the ocean are constantly circulating, the warm waters from the tropics flowing towards the poles, and the colder waters from the poles flowing towards the tropics, thus tending to create uniformity of temperature.

(a) *At the surface*, the temperature varies according to the latitude and the seasons, being on an average about 80° F. near the Equator, and falling down to 28° F. near the Poles in winter.

(b) *Below the surface*, the average temperature is nearly constant, whether near the Equator or the Poles.

It has been ascertained that *the mean temperature of the sea is about 39½° Fahr.*

(7) **Uses of the Sea.**—The sea possesses many important uses :—

(1) It is the great moderator of heat and cold, and keeps the surface of the earth within those limits of temperature beyond which life is impossible.

(2) it contributes largely to health by its influence upon climate ;

(3) it forms a barrier against foreign invasion ;

(4) it forms a medium of communication between different countries ;

(5) it forms the great source of rainfall which is indispensable to the support of animal and vegetable life.

SECTION II.—DIVISIONS OF THE SEA.

The sea is naturally one, but for purposes of reference it is divided into five large parts, called oceans, and named the Pacific, the Atlantic, the Indian, the Arctic, and the Antarctic oceans.

1. **The Pacific Ocean.**—This ocean is called the Pacific (or peaceful) because of the prevalence of fair winds and calm waters over it. Its *area* is 68 million square miles, or one-third of the entire surface of the globe.

In *extent* it stretches from the Arctic to the Antarctic circle, north and south, and from Asia and Australia to America, west and east. It is *divided* into the North and South Pacific Oceans by the equator. Its greatest *depth* has been found to be 4655 fathoms.

The *distinguishing features of this ocean* are :—

- (a) it nowhere penetrates deeply into the land ;
- (b) it receives no large rivers except those of China ;
- (c) it has a very large number of archipelagos.

The chief *inland seas connected with the Pacific* are :—the China Sea, the Yellow Sea, the Sea of Japan, the Sea of Okhotsk, and the Behring Sea—on the East ; and the Gulf of California, on the West.

2. **The Atlantic Ocean.**—This ocean is named after Mount Atlas in north-west Africa. In *extent* it is about 33 million square miles, and in average *depth* about 13,200 feet. It is situated between America on the west, Europe and Africa on the east, and the Arctic and Antarctic circles on the north and south. It is *divided* into the North and South Atlantic by the equator.

The *distinguishing features of this ocean* are :—

- (a) its comparative narrowness ;
- (b) its pent-up and rapid currents ;
- (c) its comparative freedom from islands ;
- (d) the enormous extent of its coast-line which exceeds that of all the other oceans put together.

The chief *inland seas connected with the Atlantic* are :—the Baltic, and the Mediterranean,—on the east ; and the Carribean Sea, the Gulf of Mexico, the Gulf of St. Lawrence and Hudson Bay—on the west.

3. **The Indian Ocean.**—This ocean derives its name from India whose shores it washes. Its *extent* is from 20 to 28 million square miles. It is situated between Persia and India on the north, the Antarctic circle on the south, Australia on the east, and Africa and the Atlantic Ocean *on the west*. Its average *depth* is about 2,300 fathoms.

The *distinguishing feature of the Indian Ocean* is that its waters have a higher temperature than those of the other oceans, and consequently evaporation from them is more abundant.

The *inland seas connected with the Indian Ocean* are :—the Bay of Bengal, the Arabian Sea, the Persian Gulf, and the Red Sea.

4. **The Arctic Ocean.**—This ocean derives its name from the circle which forms its southern boundary. It is situated between the Arctic circle and North Pole. Its *extent* is about four million square miles. It is connected with the Atlantic by a broad passage between Norway and Greenland, and with the Pacific by the Behring Strait.

The *inland seas connected with the Arctic Ocean* are :—the White Sea, the Kara Sea, and the Gulf of Obi.

5. **The Antarctic Ocean.**—This ocean derives its name from the circle which forms its northern boundary. Its *extent* is about eight million square miles. It is connected

with the Pacific, Atlantic, and Indian Oceans ; but it is as yet inaccessible, owing to its huge and numerous icebergs, and to the tempestuous and freezing winds which blow over its surface.

SECTION III.—MOTIONS OF THE SEA.

The sea has three distinct motions—(1) waves, (2) tides, and (3) currents.

I.—WAVES.

1. **How waves are caused.**—Waves are caused by the friction of the wind on the surface of the water. They appear to be moving towards the shore, but in reality do not: they have only an up-and-down movement. When there is a strong wind, the waves are very large and powerful, and the disturbance of the sea continues for many hours after the storm has ceased.

2. **Breakers.**—Some waves dash against the coast with so much force that they break up cliffs and crumble away rocks. Waves that break against the coast in a mass of foam (or *surf*) are called *Breakers*.

II.—THE TIDES.

1. **Definition.**—The tides are a regular rise and fall of sea water occurring periodically at places on the coasts. The tide appears as a wave of water, which gradually rises higher and higher up to a certain height, and then as gradually sinks, till its surface is about as much below the medium level as it was before above it. From that time the wave again begins to rise ; and this alternate rise and

fall of the waters continues constantly, with certain variations in the height and in the times of attaining the greatest degree of height and of depression. This alternate rising and falling of the tide-wave is observed to take place generally twice in the course of a lunar day, or of 24 hours 49 minutes, on most of the shores of the ocean, and in the greater part of the bays, firths, and rivers which communicate freely with it.

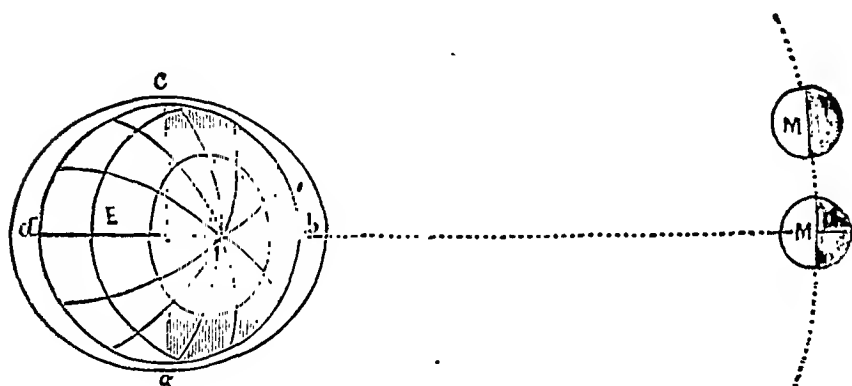
The tides form what are called a *flood* and an *ebb*, a *high* and *low water*. The whole interval between high and low water is often called a *tide*; the water is said *to flow* and *to ebb*; and the rising is called the *flood-tide* or *flow-tide*, and the falling the *ebb-tide*.

The rise and fall of the waters is exceedingly different at different places, and is also variable everywhere. The interval between two succeeding high-waters is also variable. It is shortest about new and full moon (*Amavashya* and *Purnamashi*), being then about 12 hours 19 minutes: and about the time of the moon's quadratures it is 12 hours, 30 minutes.

2. **How tides are caused.**—Tides are caused by the attracting force which the sun and moon exercise upon the water of the earth. The moon is the nearest of the heavenly bodies to the earth, and hence her attraction has more to do with the causing of the tides than that of the sun. This attracting force, called gravitation, acts most powerfully at that part of the earth which is turned towards the moon, or which is directly under the moon's vertical path in the

heavens; and, as water moves more easily than land, the result is that the waters of the sea are drawn together by the moon's attraction and gathered up into a high wave which sets towards the shore, and is called the **flow tide**. This water is drawn away from those parts of the earth which are not directly under the moon. See Fig. below :—

Fig. 6.
THE TIDES.



E, the earth ; *M*, the moon : *b. d.* places with flow-tide : *a. c.* places with ebb-tide.

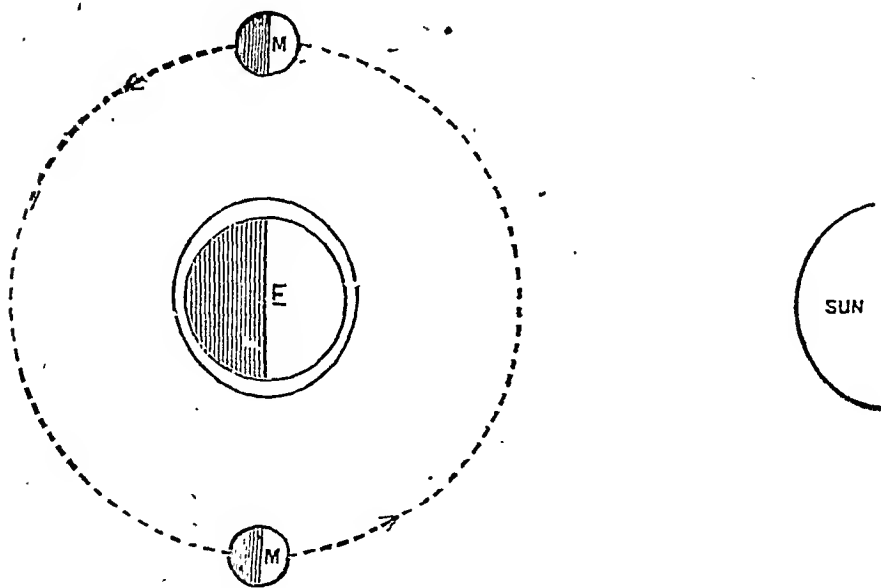
At the same time the moon attracts the bulk of the earth, and, as it were, pulls the earth away from the water on the surface farthest from it, so that here also, the water is raised, although not quite so much as on the nearer side. The waters being thus heaped up at the same time on these two opposite parts of the earth, and the waters situated half-way between them being thus necessarily depressed or drawn away, two high and two low tides occur in the

period of a little more than one rotation of the earth on its axis, *i. e.*, 24 hours.

3. **Spring Tides and Neap Tides.**—The sun also attracts the water of the sea, but not so powerfully as the moon, because it is more distant. When it is in a straight line with the moon, it adds its own force to the moon's, and the resulting tide is higher than usual. Such a tide is called a **Spring Tide**, as in Fig. 7 below :—

Fig. 7.

SPRING TIDES.

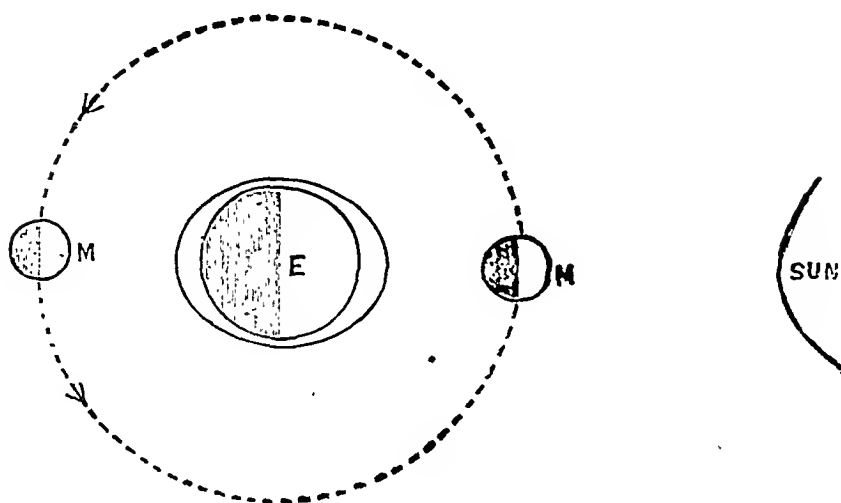


E. the earth ; *M.* new moon ; *M.* full moon.

On the contrary, when the sun is not in a straight line with the moon, it partially counteracts the moon's attraction

and the resulting tide is lower than usual. Such a tide is called a **Neap Tide**. See Fig. 8 below :—

Fig. 8.
NEAP TIDES.



E. the earth ; *M*, first quarter of the moon ; *M*, last quarter of the moon.

Now, the moon revolves round the earth once in 28 days, during which time it is twice in a straight line with the sun,—once at full moon (or *Purnamashi*), when it is exactly opposite to the sun, and again at new moon (or *Amavashya*), when it is between the earth and the sun. We have therefore two spring tides in every month,—at full moon, and at new moon. At half-moon (about *Saptami* in the *Shukla paksha* and *Krishna paksha*), the forces of the moon and sun act against each other, and the resulting tides are not so high or low as usually. There are, therefore, two neap tides also in every month.

4. **Bores.**—At the mouths of rivers the advancing tide is sometimes so obstructed by the rapid narrowing and shallowing of the channel that a wall of water is formed, which rushes up the river, and is called a *Bore*.

The whole subject of the tides may be represented in the following table:—

The Tides.

No.	Position of the Sun, Moon, and Earth.	Character of the resulting Tide.
1	<i>Full moon</i> : Earth between moon and sun.	Spring Tide.
2	<i>Half moon</i> : Moon at right angles with the earth and sun.	Neap Tide.
3	<i>Half moon</i> : Do.	Do.
4	<i>New moon</i> : Moon between earth and sun.	Spring Tide.

III.—CURRENTS.

1. **Definition.**—A *current* may be defined as a steady onward flow of sea water in a certain direction, through the other waters of the ocean. A current, caused by a strong steady wind and affecting only the surface, is called a **Drift**.

2. **How currents are caused.**—Currents are chiefly caused by the evaporation of water in the hot equatorial regions, and as water finds its own level, the colder waters of the polar regions flow towards the equator to fill up the gap caused by the evaporation, thus producing a current.

Currents are also caused by the rotation of the earth. As the earth rotates, the waters of the ocean tend to be left behind, that is, to flow in a direction contrary to that of the earth's rotation. This tendency is greatest near the equator, where the motion of the earth's surface due to rotation is most rapid.

3. Kinds of Currents.—Sea currents are of various kinds :—

(a) **Ventorious or Surface Currents**, or those that are caused by winds, (from Lat. *ventus*, the wind). Such currents are confined to the surface, and do not extend beyond a certain depth.

(b) **Polar Currents**, or currents of cold water flowing from the poles towards the equator.

(c) **Tidal Currents**, or those caused by the attraction of the sun and moon.

4. The Gulf Stream.—The Gulf Stream is a famous current of warm water, which issues out of the Gulf of Mexico, and crossing the Atlantic, washes the shores of Western Europe. It is from 40 to 100 miles wide, in places over 3,000 feet deep, flows at the rate of five miles an hour in the middle part of its course, and has a surface temperature of 85° F.

(a) **Cause of the Gulf Stream.**—The Gulf Stream is a current caused by the winds which blow on both sides of the Equator.

(b) **Course of the Gulf Stream.**—Issuing out of the Gulf of Mexico, it rushes through the Gulf of Florida, and then

travels, as a narrow stream of warm water, in a north-westerly direction till within some 200 miles of the coast of Newfoundland, when it bends eastward and strikes across the ocean. In mid-ocean it divides, and one branch travels southwards along the coasts of Portugal and Africa, till it unites with the equatorial current again. The other branch is driven north-east by the prevailing south-west winds, and, under the name of the **Gulf Stream Drift**, washes the coasts of north-western Europe and the northern islands as far as Spitzbergen.

(c) **Effect of the Gulf Stream.**—It greatly modifies the climate of eastern America and western Europe, which otherwise would be much colder than they now are. It is to the Gulf Stream that the comparatively mild climate of the British Isles is due.

5. **The Kuro Siwo.**—This is a current in the Pacific corresponding with the Gulf Stream in the Atlantic. It flows past the eastern shores of Japan, and is called the *Kuro Siwo* (=the black stream) from its dark-blue colour. It then moves towards the shores of North America. The climate of Japan and British North America is greatly modified by this current.

6. **Influence of Currents on Climate.**—Currents in the sea have a large influence on the climate of the countries situated on the sea shore :—

(a) They modify the extreme heat of the equatorial, and the extreme cold of the polar, regions.

(b) Where cold and warm currents meet, dense fogs are common, as on the great Banks of Newfoundland.

(c) The same circumstance also causes violent storms, as for example the hurricanes of the east coast of the United States, and the typhoons of the Pacific.

(d) The continuous circulation of the waters of the ocean keeps them pure and free from the evil effects of stagnation.

7. **Influence of Currents on Commerce.**—Warm currents serve to keep harbours in cold countries free from ice, thus permitting trade to be carried on throughout the year. The routes of ships are frequently selected so as to take advantage of favourable currents and to avoid unfavourable ones.

SECTION IV.—DEFINITIONS OF WATER TERMS.

(1) A Sea is a branch of the ocean more or less enclosed by land; *e. g.*, the Arabian Sea.

(2) A Gulf is a wide space of sea penetrating far into land; *e. g.*, the Persian Gulf.

(3) A Bay is a bend or hollow in the line of coast; *e. g.*, the Bay of Bengal.

(4) A Bight is a bend in the sea-coast forming an open bay; *e. g.*, the Bight of Benin, west of Africa.

(5) A Haven, Port, or Harbour is an indentation in the coast which affords shelter to ships; *e. g.*, Liverpool; London.

(a) A Creek is a small opening in the land where ships may lie in safety.

(b) A **Road** or **Roadstead** is a place at sea, more or less sheltered from winds and currents, where ships can *ride* at anchor; *e. g.*, the Yarmouth Roads.

(c) A **Firth** or **Frith** is narrow inlet of the sea, especially at the mouth of a river; *e. g.*, the Firth of Forth.

(d) An **Estuary** is a channel which extends inland from the sea, and is filled only at flood-tide.

(6) A **Strait** is a narrow passage in the ocean between two bodies of land; *e. g.*, the strait of Babelmandeb.

(a) A **Channel** is a long and wide strait; *e. g.*, the English Channel. It also means a passage leading from the sea to the mouth of a river.

(b) A **Sound** is a narrow part of the sea situated between islands, or between islands and the mainland; *e. g.*, the Sound, separating the Danish island of Sealand from Sweden.

(7) A **Current** is a marine stream, that is, a flow of the water at certain places in the sea.

Ocean currents are of two kinds:—

(a) A **Stream Current**, which is a powerful ocean river forcing its way through the surrounding waters, maintaining one uniform direction, and suffering little modification from temporary adverse winds.

(b) A **Drift Current**, which is merely a local flow of waters caused by the prevailing wind, and affecting only the surface of the ocean.

(8) A **Wave** is a volume of water raised and driven by the wind.

(a) A **Billow** is a great wave of the sea swelled by a storm.

(b) A **Surge** is the rising or boiling up of large waves.

(c) A Breaker is a large wave dashing upon the coast and breaking in a mass of foam.

(9) A Lake is a body of water, more or less extensive and deep, contained in some natural depression of the earth's surface.

Lakes are distinguished into five kinds, according to the manner in which they receive and discharge their waters :—

(a) Lakes of reception, which receive a river or rivers, but have no visible outlet. Their waters are kept from overflowing by evaporation, and perhaps also by percolation and subterranean escape. For example—the Caspian Sea.

(b) Lakes of emission, which have an outlet, but receive no running waters. They draw their supplies from rain and from springs in their beds. For example—the lakes of Central Africa.

(c) Lakes of transmission, which both receive and emit rivers. For example—the great American lakes.

(d) Lakes which have neither inlets nor outlets, but derive their supply from rain and from subterranean springs and discharge them by evaporation and probably also by underground channels. Such lakes are supposed to be the craters of extinct volcanoes, and are very small. For example—Lake Albano in Italy.

(e) Lake which have the same inlet and outlet, as for example, Lake Geneva (in Italy) into which the Rhone enters at its upper end, and after maintaining its course right through, passes out at its farther extremity.

A Lagoon (or Lagune) is a shallow salt-water lake, close to the sea, which is formed by the overflow or infiltration of the sea.

Lakes are also classed into *salt* and *fresh*. As a rule, those lakes which have rivers flowing into and out of them are fresh, while those that have no outlet are salt.

(10) A River is a great stream of water which generally rises in a mountain, receives into its bosom a number of small tributary streams, and finally falls into the sea or into some lake.

(a) The Source of a river is the place from which it takes its rise.

(b) Its Channel or Bed is the low hollow in which its waters flow.

(c) Its Course is the direction in which its water flows.

(d) Its Banks are the margins of land which border upon its channel.

A river's banks are called *right* or *left* according as they lie on the right hand or the left of a person who may be supposed to be rowing from the source towards the mouth.

(e) Its Basin is the whole tract on each side of it which is drained by it and its tributaries, and from which it draws its supplies; *e. g.*, the greater part of the United Provinces forms the basin of the Ganges and Jumna.

(f) Its Mouth is the place where it falls into the sea.

(g) A Tributary or Affluent or Feeder is a small river flowing into a larger one; *e. g.*, the Jumna, the Gunti, the Ghagra &c. are tributaries of the Ganges.

(h) The Confluence of two rivers is the point where they unite; *e. g.* the "Tribeni" at Allahabad is the confluence of the Ganges and the Jumna.

(i) When the bed of a river suddenly slopes, so that the waters rush onward with increased velocity and without obstruction, a Rapid is formed.

(j) When a river rushes from a high to a much lower level, a Waterfall or Cataract is formed; *e. g.* the Niagara Falls.

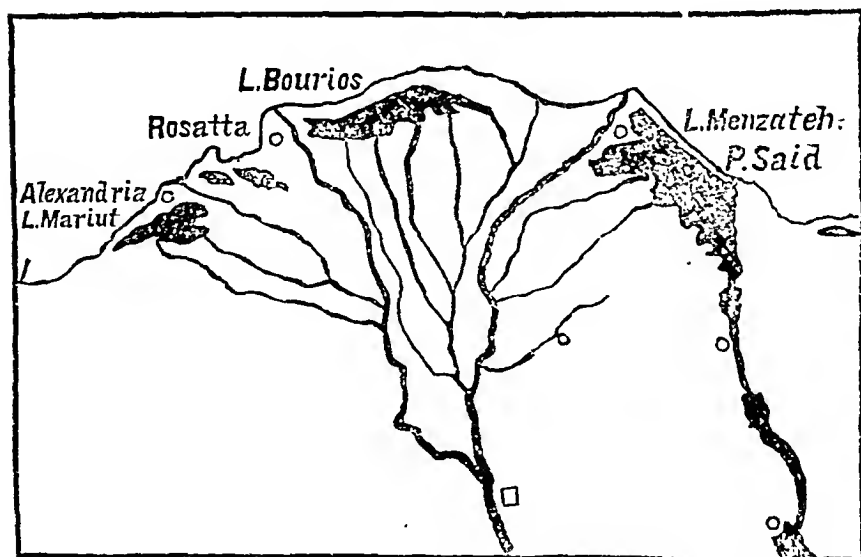
(k) When the quantity of water that falls is inconsiderable, and the descent small, the fall is called a Cascade.

(11) A Delta is the low flat land formed of the mud and sand brought down by a river, where it divides into several branches near its mouth; *e. g.*, the delta of the Ganges.

A delta is formed in the following manner:—

Rivers carry a great deal of sediment to the sea. If strong currents or tides flow past the mouth of the river, this sediment is carried further away, but when the river flows into a lake or a comparatively tideless sea, its flow is checked, and the deposit of sediment accumulates at the mouth, gradually filling up the estuary. As these deposits rise above the surface, the river forces its way to the sea by several mouths, while every flood, by depositing fresh matter, raises the beds of sediment higher above the surface of the water. Such a formation of soil is called a Delta, from its supposed resemblance to *delta* (V), the fourth letter of the Greek alphabet. See Fig. below for a picture of the delta of the Nile.

Fig. 9.
DELTA OF THE NILE.



The Head of a delta is the point where the river originally met the sea. This may be several miles from the sea, as the head of the Ganges delta, which is 220 miles from the sea.

(12) A Glacier is a river of ice flowing down the side of a mountain or through a deep elevated valley.

A Glacier is formed in the following manner:—

In places above the snow-line, where the snow does not melt, the pressure of the upper layers of snow squeezes the lower layers so closely together that a compact mass of ice is formed. The summer heat causes the surface layers to melt, and to fill the lower layers with water, which freezes at night. Each winter brings fresh snow, which is in turn squeezed into ice. The enormous pressure from the snow-fields behind and the force of gravitation cause the mass of ice to move slowly down the valley, forming a *Glacier*.

(13) An Iceberg is an enormous mass of snow floating in the sea.

An Iceberg is formed in the following manner:—

Near the poles, where the snow-line is as low as the sea-level, enormous glaciers reach for a considerable distance into the sea. The action of waves and currents undermines and breaks off huge masses of ice, which are carried by currents into warmer latitudes, and float in the sea, being known as *icebergs*.

(14) A Canal is an artificial waterway joining two seas; *e. g.*, the Suez Canal joining the Mediterranean with the Red Sea.

A Canal may also be cut from a river for purposes of irrigation; *e. g.*, the Ganges Canal at Hardwar.

(15) A Spring is a natural bubbling up of water from a spot of the earth's surface.

A Spring is formed in the following manner:—

When rain falls upon an open permeable rock, such as sand or gravel, it sinks in and the lower portion of the rock becomes

saturated. When this sand or gravel rests upon an impermeable rock, such as clay, granite, &c., the water passes along the surface of the clay and oozes out as a surface spring.

Springs are of two classes :--

(a) Thermal Springs, which are hot springs cropping up from a great depth.

(b) Mineral Springs, which are springs containing mineral substances, such as salt, carbonate of lime, oxide of iron, &c., in solution.

Questions.

1. What is the total extent of the water surface of the globe? What proportion does it bear to the land surface?
2. What is the average depth of the sea? How is the depth of the sea measured?
3. What do you understand by the term *Sea-Level*?
4. How do you account for the saltiness of the sea?
5. Why is the temperature of the sea higher and more uniform than that of land in the same region?
6. Name the advantages which mankind derive from the sea.
7. Name the five great oceans of the world, and mention a few distinctive features of each.
8. Explain the phenomena of the tides and distinguish between Spring Tides and Neap Tides. Illustrate your answer by means of diagrams.
9. How are waves caused, and how do waves differ from breakers?
10. What do you understand by *high water* and *low water*? What is a *Bore*?
11. Classify the various sea currents, and give a full description of the Gulf Stream.
12. What is the Kuro Siwo, and why is it so called?
13. Describe the influence of currents (1) on climate, and (2) on commerce.
14. Define *Bight*, *Haven*, *Creek*, *Estuary*, *Lagune*, *Sound*, *Basin*, *Delta* and *Cataract*, giving one or more examples of each.

15. Into how many kinds have lakes been divided ? Name them and define them.
16. Explain how the delta of a river is formed.
17. What is a *Glacier*, and how is it formed ?
18. What is an *Iceberg*, and how is it formed ?
19. How is a spring generally formed ? Into what classes have springs been divided ?

CHAPTER III.

THE ATMOSPHERE.

The *atmosphere* is a name given to the entire mass of air which surrounds the earth and moves with it. We do not see the air, but can know that it exists (1) by swinging our arms quickly backwards and forwards ; (2) by moving a fan in front of our face ; (3) by the natural movement of air which causes a wind ; and (4) by the changes of heat and cold.

SECTION I.—NATURE OF AIR.

(1) It is a *fluid*, *i. e.*, it flows freely and easily from one place to another, so that if air is drawn up from one spot more air will flow in to take its place.

(2) It is exceedingly *elastic*, *i. e.*, easily expanded by heat and contracted by cold. In an expanded form it is said to be *rarefied* ; in its compressed form it is said to be *dense*. In an expanded form it is lighter and occupies more space ; in a contracted form it is heavier and occupies less space. Air contracts also when subjected to pressure, and expands again when the pressure is withdrawn.

SECTION II.—COMPONENT PARTS OF AIR.

Air is composed of the following elements:—

(1) *Oxygen*, which exists in the proportion of about 21 per cent.

(2) *Nitrogen*, which exists in the proportion of about 76 per cent.

(3) *Carbonic Acid Gas*, which exists in a very small proportion.

(4) *Watery Vapour*, which also exists in a very minute proportion.

Oxygen is a gas that supports combustion and animal life. Nitrogen is destructive of both, but contributes to the growth of vegetable life. Carbonic acid gas is the chief support of plants, but poisonous to animals in large quantity. Watery vapour is the source of clouds and rain, and is indispensable to both animal and vegetable life.

SECTION III.—PRESSURE OF THE AIR.

1. What is the 'Pressure' of the air.—The air surrounds the earth up to a height of 45 miles; and in a rarefied form exists to a height of about 200 miles above the earth's surface. The air nearest to the earth's surface is the densest, because it is more strongly attracted by the earth, and because it has the weight of the air above pressing upon it.

2. Difference in the pressure of air in different places.—At the sea level, the air exerts a pressure of about 15 lbs on every square inch of surface. But on hills,

ground the pressure is much less, for the air is more and more rarefied as we go up. By a well-known law the volume of a gas (and therefore of air) varies inversely as its pressure. At a height of about three miles, where the pressure of the atmosphere is only about half of what it is at the sea level, the volume of a given weight of air is doubled. At a height of fifteen miles the pressure is only about 2 lbs. per square inch, and therefore its volume is 15 times as great as at sea level.

3. **Pressure how measured.**—The pressure of the atmosphere is measured by means of an instrument called the **Barometer**. It consists of a glass tube, about three feet long, filled with mercury and closed at one end. The open end is placed in a cup of mercury, so that no air can get into the tube, but so that the mercury is free to run out into the cup. It will be found that the whole mercury will not run out into the cup, but some 30 inches of length will remain. This 30 inches represents the normal pressure of the atmosphere. If the mercury falls below this, it is the sign of a coming storm, for it indicates a void in the atmosphere which must be filled by air rushing in from some other parts.

SECTION IV.—TEMPERATURE OF THE AIR.

The air is capable of great varieties of heat and cold. It derives its heat partly from the sun's rays, but mostly from contact with the earth, which absorbs the sun's heat more rapidly and more largely than the air, to which it imparts its heat by a process called radiation. The air also

radiates heat more slowly than the earth, so that it retains some part of the heat given off by the earth, and prevents it from getting too cold after the sun has set.

Dry air absorbs more heat than air laden with watery vapour; and hence in damp weather the temperature does not fall so much at night as it does in dry weather. Clouds also help to check radiation.

SECTION V.—CIRCULATION OF THE AIR: WINDS.

1. **Definition.**—Air in motion is called *wind*.

2. **How winds are caused.**—Winds are caused by changes arising from the unequal degree in which portions of the earth's surface are heated by the sun's rays.* The heated surface imparts its own heat to the air just above it, causing the latter to expand, and being lighter, to rise up and flow away towards the nearest cold region, its own place meanwhile being filled by currents of air from the neighbourhood. These currents of air are called *winds*.

3. **Kinds of Winds.**—Winds may be divided into two chief classes—(i) *Permanent winds*, or those which blow regularly and steadily in one direction all the year round, *e. g.*, the Trade winds, the Anti-Trade winds, and the Polar winds; (ii) *Periodic winds*, which blow in one direction at one period of the year and in another at another, *e. g.*, Land and Sea breezes, and the Monsoons. Besides these chief classes of winds there are (iii) *Local winds*, such

* See p. 9.

as the *Sirocco* in Sicily, the *Solano* in Spain, the *Föhn* in the Alps, the *Khamsin* in Egypt, the *Harmattan* in the Gulf of Guinea, the *Simoom* of the Arabian deserts, the *Mistral* of southern France, and the *Pampero* of the South American pampas. (iv) A fourth class of winds are *storms, cyclones, tornadoes, hurricanes, and typhoons*.

The different classes of winds may be represented by the following table :—

WINDS.								
Permanent winds.			Periodic winds.		Local winds.	Storms.		
Trade winds.	Anti-Trade winds.	Polar winds.	Land and Sea Breezes.	The mon-soons.		Cyclo-nes.	Ty-phoons	Hurri-canes
								Torna- does.
Sirocco (Sicily).	Solano (Spain).	Föhn (Alps).	Khamsin (Egypt).	Harmattan (G. of Guinea).	Simoom (Arabia).	Mistral (S. France.)	Pampero (S. America.)	

Let us now proceed to describe each of the above-named kinds of wind.

(1) **The Trade Winds.**—The Trade winds are permanent winds which blow in the tropical regions north and south of the equator. They are caused by the intense heat of the equatorial regions, which causes the air just above them to rise upward and to be replaced by currents of air from places north and south of the equator. The rotation of the earth from west to east converts the northerly current into a north-easterly one, and the southerly current into a south-easterly one.

The Trade winds are so called because they blow steadily in the same track, 'trade' having once had the meaning of 'track' or 'course.' Some geographers derive the name from the fact that these winds are very favourable to trade or commerce.

Between the trade winds lies a belt of calms known as the **Doldrums**, a region where heavy rains and thunderstorms alternate with calms.

(2) **The Anti-trade Winds.**—The Anti-Trade Winds are winds blowing over the equatorial regions towards the poles. But the wind cannot blow far in this direction, and being soon cooled, descends again to earth. In the northern hemisphere the wind is deflected to the right as a south-west wind, while in the southern hemisphere it becomes a north-west wind. The former is somewhat variable owing to the influence of the great land masses of the northern hemisphere, but in the southern hemisphere, where there are no great land masses, these winds blow so strongly and steadily between latitudes 40° and 50° that they are known as the **Roaring Forties**.

Between the trade winds and the anti-trade winds are the calm belts of Cancer and Capricorn. The calm belt in the North Atlantic is known as the **Horse Latitudes**, from the fact that when ships sailing between New England and the West Indies with cargoes of horses were becalmed in this belt, they were frequently obliged to throw the animals overboard on account of shortage of water.

(3) **The Polar Winds.**—These are intensely cold winds that blow regularly from the north-east in the Arctic, and from the south-east in the Antarctic regions.

(4) **Land and Sea Breezes.**—These are periodic winds prevailing near the sea shore. They are caused in the following way :—During the day the land gets more heated than the sea ; consequently the air over the land rises, and a cool wind blows in from the sea to take its place, thus causing a *sea breeze*. At night this is reversed : the sea

is warmer and the air over it rises, and a cool wind blows from the land to take its place, thus causing a *land breeze*.

(5) **The Monsoons.***—The Monsoons (a name derived from the Arabic word *mausim*, a 'season') are periodic winds which blow over the Indian Ocean from the south-west for six months from April to October, and from the north-east for the next six months from October to April. The first is called the *Summer Monsoon*, and brings heavy rain; the second the *Winter Monsoon*, which is a comparatively dry wind.

Monsoons also occur in Australia and Central America but the land masses being so much smaller they are not so important as those of southern Asia.

(6) **Storms.**—Storms are violent motions of the air, generally accompanied by rain, and sometimes by thunder and lightning.

A storm originates in the following manner :—

When a small portion of the earth's surface gets heated more than the surrounding parts, the air over it expands, rises, and spreads in all directions, causing less pressure within this area and more outside. The heavier air from the outside will consequently flow in. As the air rises it cools, and the moisture it contains is condensed, thus liberating a large amount of latent heat, which rarefies the rising air still more, and strengthens the current. The moist air flowing in below from all sides brings fresh vapour, which condenses as cloud and rain.

* For a full account of the *Monsoons*, see Geography of India.

Storms are of various kinds in various localities and under various circumstances :—

(a) **Cyclones and Anti-cyclones.**—Since winds blow from areas of high pressure to areas of low pressure, whenever there is a central area of low pressure surrounded by areas of higher pressures, winds will blow *in* towards the centre. And whenever there is an area of high pressure surrounded by areas of lower pressures, winds will blow *out* from the centre. The former constitutes a *cyclone*, the latter, an *anti-cyclone*.

Points of resemblance and difference between a Cyclone and an Anti-cyclone.—In a cyclone the tendency of the wind is *inwards* and *upwards*; in an anti-cyclone, *outwards* and *downwards*. Both cyclone and anti-cyclone are deflected from their original course by the rotatory motion of the earth. In the southern hemisphere a cyclone moves in the same direction as the hands of a watch; an anti-cyclone in the opposite direction. In the northern hemisphere these directions are reversed. In a cyclone the steepness of the barometric gradient may be gentle or rapid; in an anti-cyclone it is always gentle. That is, a cyclone is always like a storm, accompanied by heavy rain; an anti-cyclone is not a storm at all, and is usually characterised by cool and pleasant breezes, cloudless skies, and brilliant sunshine. Both cyclones and anti-cyclones are more numerous in temperate regions than in the tropics, but violent cyclones are most common in the tropics.

(b) **Tornadoes** are local cyclonic storms of great violence but of small extent, being rarely more than $\frac{1}{4}$ of a

mile in width. Tornadoes are more destructive in their effects, blowing down large buildings and trees. They are most common in the United States.

(c) **Hurricanes** are destructive storms that blow in the West Indies.

(d) **Typhoons** are similar storms blowing in the China Seas.

(e) The **Simoom** is a hot wind of great force blowing in Arabia.

(f) The **Harnattan** and **Sirocco** are hot winds blowing in the interior of Africa.

SECTION VI.—MOISTURE OF THE AIR.

1. **Evaporation and Condensation.**—All air contains some quantity of watery vapour, that is, some degree of moisture. This quantity varies with the temperature, warm air being capable of holding more moisture than cold air. Seas, rivers, lakes, and wet ground are constantly supplying moisture to the air by a process called **Evaporation**, by which, through the sun's heat and the effect of wind, water is changed into vapour and held invisibly in the air. When the air has received as much vapour as it can hold, it is said to be **saturated**. If any more vapour enters it at this stage, or if the air is cooled to any extent, this extra amount of vapour becomes condensed. **Condensation** is therefore the process by which the vapour in the air becomes changed back into water.

2. **Different forms of Condensation.**—The watery vapour in the air becomes condensed sometimes in the form

of-dew, sometimes of mist, fog, or cloud, and sometimes of rain and snow. We shall now proceed to consider each of these forms.

I.—DEW.

1. **What is Dew.**—Dew is water deposited at night or in the morning on blades of grass and leaves of trees and over the earth's surface. It is the gentlest form in which the vapour of the air is deposited upon the earth.

2. **How is Dew caused.**—At night the earth radiates its heat very rapidly, and after sunset quickly cools (provided there are no clouds to hinder the radiation). If there is no wind, the air in contact with the ground is cooled, and its vapour is deposited upon leaves of trees, blades of grass, metal substances, stone, &c., in proportion to the rapidity with which they part with their heat.

3. **On what the quantity of dew deposited depends.**—The quantity of dew deposited on any given object depends on—

- (1) its temperature,
- (2) the nature of its materials,
- (3) its texture,
- (4) the roughness or smoothness of its surface.

Thus, while metals, stone and wood are found comparatively dry, living plants of every form are copiously laden with dew. Substances having a coarse texture are unfavourable to its formation, as also those surfaces which part with their heat least readily, as for example, polished metals.

On cloudy nights there is little or no dew, because clouds act as a screen and prevent radiation of heat from objects on the earth's surface. For the same reason, there is usually no dew under a tree or the roof of a shed.

4. **What is Hoar-frost.**—When the temperature of the grass falls below the freezing-point of water (32° Fahr.), the dew becomes frozen, and is then called *hoar-frost* or *rime* (Hindustani, *pālâ*) in which the condensed vapour appears in the form of little ice crystals.

II.—MIST, FOG, AND CLOUD.

1. **Distinction between Cloud, Mist, and Fog.**—All these are caused by the condensation of watery vapour either by a mass of warm moist air coming in contact with cold ground, or by a current of warm air coming in contact with a current of cold air. If the reduction of temperature takes place at a height above the surface of the earth, by means of a cold current of air coming into contact with a warmer one already at the point of saturation, the extra vapour will assume the form of *clouds*. Note that clouds are not vapour, but water existing in particles so minute as to be able to float in the air. But if the reduction of temperature takes place at a lower level the condensed vapour is called *mist*. When the mist is very dense it is called *fog*.

2. **Where fogs are most frequent.**—Fogs are most frequent in the neighbourhood of rivers and in marshy tracts, because a great deal of evaporation is constantly going on in these places, and, as the air cools, condensation takes place. In cold countries a thick fog may hang over |

a place for a long time. When there is much dust or smoke in the air, fog collects easily, because the minute particles of moisture cling easily to the particles of dust or smoke, and fogs of such density are sometimes produced as to make day almost as dark as night.

III.—RAIN.

1. **How is rain caused.**—When evaporation and condensation have been going on for some time, the small particles of moisture in the air run together and form larger drops. These grow in size and number, until they are too heavy and too numerous to float in the air, and then they fall to the ground in the form of rain.

2. **On what circumstances the rainfall of a country depends.**—The rainfall of a country depends on :—

(1) the direction of the prevailing winds ; where warm winds blow towards a cool place the rainfall is heavy.

(2) the presence of land masses ; mountains induce much rainfall, for they force the winds that blow against them upwards, and so lead to a deposit of their vapour.

(3) Vegetation ; forests cause heavy rainfall, for they keep the adjacent air comparatively cool.

As a rule, the rainfall is heavier in warm countries than in cold and temperate regions, because evaporation proceeds there more rapidly.

3. **Places where rainfall is scanty.**—These are :—

(1) places surrounded by mountains, which obstruct the clouds ;

(2) places in the remote interior, which the clouds cannot reach before emptying themselves ;

(3) places so warm and dry that the clouds on reaching them are evaporated.

Thus, Egypt, the Sahara Desert, parts of Arabia and Persia, and the west coast of Peru, are rainless tracts.

IV.—SNOW AND ICE.

1. **What is Snow.**—Rain water sometimes freezes before falling and then it is called *snow*. In the higher parts of the atmosphere the clouds are almost always frozen. Probably they begin their descent in the form of snow, melting and forming rain when they reach warmer air. If however the air is below freezing-point all the way to the earth, they reach the ground as snow.

2. **Snow-flakes.**—When the particles of moisture are exposed to an intensely cold current of air, they are frozen into small ice crystals, and when many of these collect together, they usually assume a highly symmetrical and beautiful shape before descending to the earth in the form of *snow flakes*.

3. **Difference between Snow and Ice.**—The difference between snow and ice is that the former is formed up in the sky, the latter on earth. In cold countries the surface of rivers, lakes, and pools becomes a solid sheet of ice in winter. The top alone freezes first, because it is exposed to the cold air ; below it the water remains in a liquid form. But if the temperature continues below freezing-point, ice will go on forming deeper and deeper.

4. **The Snow-Line.**—On the top of high mountains the cold is so great* that snow always falls instead of rain, and this snow never melts away completely, so that the mountain tops are perpetually clothed with snow. *The elevation above which a mountain is always covered with snow is called the Snow-Line.* The height of the snow-line varies with the latitude : near the Poles it is at sea level ; in the Alps it is between 8,000 and 9,000 feet ; in the Andes, between 12,000 and 15,000 ; in the Himalayas, between 16,000 and 19,000. The snow-line is higher where the air is usually dry ; it is lower where the air is usually moist.

5. **Hail.**—Hail consists of little pellets of ice which have been formed, during descent, by the minute ice particles gathering into compact masses round a particle of dust. Hail-stones (Hindustani *olá*) are not frozen rain-drops.

SECTION VII.—CLIMATE.

1. **Definition of 'Climate.'**—By the *climate* of a place is meant the prevailing character of its weathers, or all those states and changes of its atmosphere which sensibly affect plants and animals.

2. **Causes of variation in Climate.**—The climate of a place chiefly depends upon :—

(1) *Latitude*,—the higher the latitude the cooler the climate, because the sun's rays do not strike vertically upon higher latitudes.

* This is due to the fact that the temperature of the air falls about one degree Fahrenheit for every 300 feet of elevation.

(2) *Elevation*,—the higher the elevation the cooler the climate, because the air in elevated regions is thinner and cannot receive much heat. Hence the hill stations are cooler than the plains.

(3) *Distance from the sea*,—countries on the sea-coast are less subject to extremes of heat and cold than others.

(4) *Direction of prevailing winds*,—warm winds, like the south-west monsoon, carry moisture and warmth to the lands they blow over.

(5) *Presence of ocean-currents near the coast*,—such as the Gulf Stream which greatly modifies the cold of Western Europe.

(6) *Direction of mountain ranges*,—where the ranges intercept warm and moist winds they cause a heavy rainfall. Mountain ranges may also protect countries from cold winds, and modify their climate.

(7) *The amount of annual rainfall*.

(8) *The slope of the land*,—if the slope is towards the sun at noon, the climate of a cold country is made warmer thereby.

(9) *The nature of the soil*,—sandy soil being heated and cooled more quickly than marshy soil.

(10) *Vegetation*,—which promotes moisture.

3. **Varieties of Climate.**—The climates of countries are of various kinds:—

(1) Where the range of temperature* prevailing at a place is great, a climate is called *extreme*. As such climates are found far away from the sea-coast, they are also called *continental*.

(2) Where the range of temperature prevailing at a place is small, the climate is called *insular*. As such climates are found near the sea, they are also called *marine*.

(3) Where the range of temperature prevailing at a place is moderate, the climate is called *equable*. Such climates are the most favourable to health.

4. **Temperature Lines.**—As the temperature of a given place depends on a number of causes besides latitude, the names *torrid*, *temperate*, and *frigid* do not adequately express the temperature of the different parts of the earth's surface. Geographers have therefore invented other imaginary lines to describe the true boundaries of climatic zones. These are :—

(1) **Isothermal Lines**,—lines connecting together all the places having the same mean *annual* temperature;

(2) **Isocheimnal Lines**,—lines connecting places having the same *winter* temperature.

(3) **Isotheral Lines**,—lines connecting places having the same *summer* temperature.

* The *range of temperature* means the difference between the mean highest temperature and the mean lowest temperature. The *mean temperature* for the day is calculated by adding the temperature for every hour, and dividing the sum by 24. The *mean annual temperature* is obtained by adding together the mean daily temperatures and dividing the sum by 365.

These lines of equal temperature approximate more or less to the direction of the equator, whence they diverge more in the northern than in the southern hemisphere, and greatly more in high than in low latitudes.

5. **The hottest and the coldest parts of the earth.**—The *hottest part of the earth* is that extending from Lake Tchad to Mecca and the Strait of Babelmandeb, having a mean annual temperature of 81° . The *coldest part of the earth* is a long narrow belt in the Arctic Ocean, midway between Behring Strait and the North Pole, with an average temperature of 0° . Thus the hottest region is not under the equator, nor the coldest under the pole.

Questions.

1. What is understood by the term *Atmosphere*? Name the two chief characteristics of air. How can you prove the existence of air?
2. Name the component parts of air, and state the proportion in which each exists.
3. What do you understand by the *Pressure* and the *Normal Pressure* of the atmosphere? How does this pressure vary in different parts of the earth?
4. Describe the construction and uses of a Barometer.
5. How are winds caused?
6. Name the different kinds of wind, and give a full account of the Monsoons.
7. What are the Trade Winds, and the Anti-Trade winds, and why are they so called? Where are the *Horse Latitudes*, and the *Doldrums*?
8. Explain how land breezes and sea breezes are produced.
9. Distinguish between storms and cyclones, and explain how a storm originates.
10. Define the terms *Evaporation* and *Condensation*, and name the various products of condensed watery vapour.
11. How do you account for the deposit of dew on plants and trees?

12. What do you mean by the term *Saturation-point* ?
13. Why is it that on cloudy nights there is little or no dew ?
14. What is *Hoar-frost*, and how does it differ from dew ?
15. How is fog or mist produced ? Distinguish between them. Where are fogs most frequent ?
16. How are clouds formed, and how do clouds turn into rain ?
17. On what circumstances does the rainfall of a country depend ? In what places is rainfall very scanty, and why ?
18. What is *Snow*, and how does it differ from *Ice* ?
19. Define *Snow-line*. Is the height of the snow line the same in all regions ? If not, why not ?
20. What is meant by the *climate* of a place ?
21. Enumerate the causes that produce variation in climate.
22. Name the different varieties of climate, and define each of them.
23. Name the three temperature lines and define each.
24. Which is the hottest and which the coldest part of the world ?

CHAPTER IV.

DISTRIBUTION OF PLANTS, ANIMALS, AND MAN. OVER THE SURFACE OF THE EARTH.

I.—PLANTS.

1. **Conditions of Plant Life.**—The character of the plants found in a country depends upon :—(1) its temperature, (2) its rainfall, and (3) the nature of its soil. Where the temperature is high and the rainfall abundant, vegetation is most luxuriant, but in proportion as either of these conditions is wanting it becomes scanty and stunted. Light or sunshine is also an essential condition of plant life.

2. **Deserts.**—Deserts are tracts of land entirely devoid of vegetation. They may occur in any part of the world,

and are due either to lack of heat or lack of water. The Polar deserts are, for example, due to lack of heat; the tropical deserts, such as the Sahara Desert, are due to lack of water.

3. **Flora.**—The plants which grow in any country, province, or district are collectively known as its *flora*.

4. **Plant Zones.**—The plant life of the earth has been divided into five Zones (called *Plant Zones*):—

(1) The Tropical Zone, which extends to about 22° North and South of the equator. The densest forests of the world fall within this Zone.

The *characteristic tropical plants* are:—

Palms (of which there are numerous varieties, *Teak*, *Mahogany*, and other valuable timber trees; the *Banana*, the *grape*, the *Mango*, and an almost infinite variety of fruit; long grasses, such as the *bamboo* and the *reed*; trees and plants distinguished for their bright flowers, sweet fruits, and rich perfume. This Zone also produces most of the spices of the world. Its most important commercial products are *Rice*, *Wheat*, *Cotton*, *Indigo*, *Tobacco*, *Sugar*, and *India rubber*.

(2) The Sub-Tropical Zone, which stretches from 22° to about 35° North and South. This Zone contains the richest and most varied vegetation of the world, combining as it does many of the best products of both the tropical and the temperate Zones.

(3) The Temperate Zone, which stretches from about 35° to 58° North and South. In its warmer parts most of the trees are evergreens, while in the colder parts most of the trees shed their leaves in the winter. Trees of great variety and value

are found here, such as *walnuts*, *oaks*, *limes*, and the *eucalyptus*. In addition to timber trees, the most useful products of this Zone are *wheat*, *barley*, *rye*, *oats*, &c.; a great variety of fruits such as *oranges*, *raisins*, *olives*, *apples*, *pears*, *plums*, and the *grape*; also vegetables, such as *potatoes*, *turnips*, *cabbages*, and others.

(4) The Sub-Arctic Zone, which is the region of coniferous trees like the *pine*, the *fir*, &c. *Barley*, and *oats*, are also grown but there is little or no fruit, except a few small berries.

(5) The Arctic Zone, which produces only dwarfed shrubs of small value, *lichens*, and *mosses*.

Similar Zones of vegetation are passed through in climbing a mountain.

II.—ANIMALS.

1. Conditions of animal life.—The conditions essential to animal life are favourable climate and a plentiful supply of food and water. Sunshine is not so necessary to animals as to plants.

2. Checks on the distribution of animals.—The seeds of plants may be borne by the wind or by birds from one region to another; so that there is nothing to prevent the free distribution of plants over the surface of the earth. But in the case of animals there are three effective barriers to their free distribution, namely—(1) great mountain chains, (2) stretches of desert, and (3) the sea.

3. Animal Zones.—It is customary to distinguish six animal regions or Zones—

(1) The Palearctic Zone, including the whole of Europe, the greater part of Asia, and the northern portion of Africa.

(2) The **Oriental Zone**, which includes India, Southern China, the Philippine Islands, the Indo-Chinese Peninsula, and the Malay Archipelago.

(3) The **Australian Zone**, which includes besides Australia the islands of Celebes, New Guinea, and New Zealand.

(4) The **Ethiopian Zone**, which includes the whole of Africa south of the Atlas mountains, and the island of Madagascar.

(5) The **Ne-arctic Zone**, which includes Greenland and the whole of North America upto Mexico.

(6) The **Neo-Tropical Zone**, which includes the whole of Central and South America.

4. **Distribution of animals.**—Speaking generally, animal life is most abundant within the tropics, where the largest and strongest animals are found—the *Lion*, *Tiger*, *Elephant*, *Hippopotamus* and *Crocodile* are all natives of the tropics. But the largest *sea animals* are found in cold regions—the *whale*, *walrus*, and *seal* being seldom found in warm countries.

Insects also abound most in the tropics, as also birds of bright plumage, though song-birds are rare.

Most of the domestic animals, such as the *Horse*, *Ass*, *Dog*, *Sheep*, *Deer*, *Cow*, *Ox* are found in the Temperate Zone, but have been acclimatised to zones of which they are not native.

III.—MAN.

1. **The Four Chief Types of Man.**—Mankind have been divided into four well-defined types, distributed as follows :—

(1) The Caucasian or White Type, occupying the greater part of Europe, Western Asia, and North Africa. They are characterised by fair skin, large skull, broad forehead, oval face, and long wavy hair. ,

(2) The Mongolian or Yellow Type, occupying Northern, Central, and Eastern Asia, and detached portions of Europe. They are distinguished by yellow skin, oblong head, receding forehead, broad and short nose, oblique narrow eyes, and long straight black hair.

(3) The Ethiopian or Black Type, occupying central South Africa, and parts of Polynesia. They are distinguished by dark skin, narrow skull, low forehead, thick lips, and wooly hair.

(4) The American or Red Type, which is however a dying race, and is by some regarded as a branch of the Mongolian. They inhabit chiefly the warmer parts of North and South America. They are distinguished by massive projecting jaws, prominent nose and cheekbones, small black eyes, and copper or yellowish-brown skin.

2. Growth of Towns.—In ancient times the growth of towns on particular sites was due to one or more of the following causes :—

(1) Protection from violence. Wherever a powerful Chief settled, people flocked thither for security and defence.

(2) Religious considerations. The presence of a famous shrine or a sacred river attracted pilgrims from distant parts and in course of time a large resident population sprang up in those places.

In modern times the growth of towns depends on :—

(1) special natural advantages for some particular manufacture, as for example, the existence of a mine ;

(2) special facilities for commerce, as for example harbours, the mouths of navigable rivers &c. ;

(3) attractions of scenery and climate, which cause the origin of a sanatorium or health resort.

3. **Languages.**—The total number of languages in the world is said to be about 4,000, but a great many of these are spoken by a mere handful of people. The languages of the world are divided into three great classes, according to their mode of word-formation :—

(1) **Monosyllabic Languages**, like the Chinese, are made up of words of one syllable.

(2) **Agglutinative Languages**, like those of Southern India, are composed of words the parts of which do not join perfectly.

(3) **Inflectional Languages**, like Sanskrit, Arabic, English, the word-parts of which are so blended together that they seem all one piece.

CHAPTER V.

THE WORLD.

1. **General Features of Land and Sea.**—If we look at a map of the world we can easily observe the following general features :—

(1) **Proportion of Land and Sea.**—The total land area of the earth's surface is only one-fourth of the whole,—three-fourths being covered with water.

(2) **Continuous masses of land.**—Just as the different oceans are more or less connected together, so are the different continents. The whole of America forms one continuous mass, the northern point of one and the southern point of the other being united by the Isthmus of Panama.

Europe and Asia similarly form one continuous mass ; and Africa, while separated from Europe by the Mediterranean, is connected with Asia by the Isthmus of Suez.

(3) Proportion of land in the two Hemispheres.—There is much more land in the northern than in the southern hemisphere. The whole of North America, Europe, Asia, and a large part of Africa are to the north of the equator ; only South America, a small portion of Africa, Australia, New Zealand, and some islands lie south of it. The proportion of land is found to be 3 to 1. There is also much more land in the eastern than in the western hemisphere.

(4) Resemblance in the form of the different continents — They are all broad and flat towards the north and narrow towards the south, terminating in mere points. Thus, N. America narrows into the Isthmus of Panama, S. America into Cape Horn, Africa into the Cape of Good Hope, and Asia into Cape Comorin.

(5) Islands connected with the continents.—Each pair of continents is connected with an adjacent group of islands. Thus, N. and S. America have the West Indian archipelago, Europe and Africa the Grecian archipelago, and Asia and Australia, the East Indian archipelago.

(6) Difference in the form of the different continents.—(a) There are some openings on the east coast of the New World, but on the west the only opening is the Gulf of California. The coast-line of the Old World is greatly indented by gulfs. (b) The land of the New World runs north and south ; that of the Old World, east and west.

2. **Area and Population.**—The area and population of the great divisions of the world are :—

<i>Name.</i>	<i>Area.</i>	<i>Population.</i>
Europe	$3\frac{3}{4}$ million sq. miles	400 million.
Asia	$17\frac{1}{2}$ „	850 „
Africa	12 „	170 „
Australasia	$3\frac{1}{3}$ „	5 „
N. America	$8\frac{1}{2}$ „	108 „
S. America	7 „	35 „

3. **The world's census of Religion.**—The population of the world, classified according to religion, is :—

Christians	500	millions
Jews	7	„
Mohamedans	180	„
Budhists	400	„
Hindus	200	„
Fetish worship-		
pers	150	„
Unknown	133	„

4. **The world's Governments.**—The governments of the world have been divided into :—

(1) Absolute monarchy or despotism, in which the will of the monarch is supreme, as that of Russia or Afghanistan.

(2) Constitutional government, in which the powers of the head of the state are limited and controlled, as is done in the United Kingdom by Parliament.

(3) Limited monarchy, in which the office of king is hereditary but his powers strictly limited, as in England.

(4) Republic, in which the head of the state generally called a President is elected by the people for a term of years, *e. g.*, France and the United States.

(5) Federal Republic, which is made up of a number of states, each of which has local self-government, while all are subject to the central government in regard to matters affecting the general welfare of the people.

5. The Highest Mountain Peaks.—These are :—

In Asia,	Everest, in the Himalayas,	29,002 feet.
In S. America,	Sorata, in the Andes,	24,800 „
In N. America,	Wrangell, in Alaska,	21,000 „
In Africa,	Kilimanjaro, S. of the equator	19,600 „
In Europe,	Mont Blanc, in Savoy,	15,700 „
In Oceania,	Mauna Kea, in Sandwich Islands,	14,000 „

6. The Highest Active Volcanoes.—These are :—

- (1) Chimborazo, in Ecuador, S. America.
- (2) Cotopaxi, „ „
- (3) Antisana „ „

7. The Largest Islands.—These are :—

- (1) Australia 50 times the size of England.
- (2) Greenland 13 „ „
- (3) New Guinea 5 „ „
- (4) Borneo 5 „ „
- (5) Madagascar 4 „ „
- (6) Sumatra 3 „ „

8. The Largest Peninsulas.—These are :—

(1) India	27	times the size of England.
(2) Arabia	13	„ „
(3) Kamchatka	8	„ „
(4) Scandinavia	5	„ „
(5) Iberia	4	„ „
(6) Italy	2	„ „

9. The Longest and Largest Rivers.—These are :—

Mississippi-Missouri, in N. America	4,100 miles
Amazon, in South America	3,400 „
Nile, in Africa	3,700 „
Obi, in Siberia	3,200 „
Yenisei, „	3,200 „
Yang-tse-kiang, in China	3,200 „
Congo, in Central Africa	2,900 „

10. The Largest Lakes.—These are :—

In Asia, .	Caspian	180,000 sq. miles.
In N. America,	Superior	32,000 „
In Africa,	Victoria Nianza	27,000 „
In Europe,	Ladoga	6,300 „
In S. America,	Titicaca	5,000 „

The *Highest Lake in the world* is Askal Chin, in Tibet, 16,600 feet.

The *Lowest Lake in the world* is the Dead Sea, in Palestine, nearly 1300 feet below the level of the Mediterranean.

The *Deepest Lake in the world* is Lake Baikal, in Central Asia, having in some places a depth of 4,800 feet.

The *Saltiest Lake in the world* is Elton, in Russia, yielding annually 100,000 tons of salt.

11. The Grandest Waterfalls.—These are:—

- (1) The Victoria Falls, on the river Zambesi, in East Africa.
- (2) The Niagara Falls, on the river Niagara in Canada.

12. The Largest Cities.—These are:—

(1) London,	in England,	Population	7 million
(2) New York,	in the United States,	„	$3\frac{3}{4}$ „
(3) Paris,	in France,	„	$2\frac{2}{3}$ „
(4) Vienna,	in Austria,	„	2 „
(5) Berlin,	in Germany,	„	2 „
(6) Pekin,	in China,	„	$1\frac{3}{4}$ „

The *Highest Town in the world* is Pasco, in Peru, having an elevation of 14,000 feet, and a population of 7,000.

The most northern town in the world Upernavik, in Greenland.

13. **The Longest Railways.**—The longest railway in the world is the ‘Central Pacific,’ connecting New York with San Francisco, being 3300 miles long. This distance is covered by express trains in $5\frac{1}{2}$ days, and by goods trains in 10 days. The next longest railway is the ‘Canadian Pacific’ from Montreal to Vancouver, 2,900 miles long.

14. **The Largest Canal.**—The largest *ship canal* in the world is the *Suez Canal*, connecting the Mediterranean with the Red Sea. The *Longest Canal* in the world is the ‘Grand Canal’ of China, being 700 miles long.

15. **The Longest Tunnel.**—The longest tunnel in the world is the *St. Gothard*, in the Alps, which is $9\frac{1}{4}$ miles long, that is, $1\frac{3}{4}$ miles longer than the Mont Cenis Tunnel.

16. **Places on or nearly on the same Parallel.**—

$51^{\circ} 32'$ N. lat.—London, York, Antwerp, Amsterdam, Dresden.

$55^{\circ} 57'$ N. lat.—Edinburgh, Copenhagen, Moscow.

$53^{\circ} 20'$ N. lat.—Dublin, Liverpool, Hamburg.

$48^{\circ} 50'$ N. lat.—Paris, Munich, Vienna.

$40^{\circ} 25'$ N. lat.—Madrid, Naples, Constantinople, Pekin.

$34^{\circ} 24'$ N. lat.—C. of Good Hope, Sydney, Valparaiso.

17. **Places through which the Equator passes.**—

The following places are on or very near the Equator:—

Quito, Victoria Nyanza, Sumarta, Borneo, Singapore.

Questions.

1. Describe the most striking features of the general arrangement of land and water on the surface of the Earth.

2. What are the most marked differences between the Old World and the New World as regards shape and arrangement of the land.

3. Arrange the chief religions of the world in order of numerical strength.

4. Describe the chief forms of government prevailing in the different countries of the world.

5. Name the five highest mountains, the six largest rivers, islands, lakes, and cities of the world.

6. Name the largest active volcanoes and the grandest waterfalls of the world.

7. Name the largest, the highest, the deepest, and the saltiest lakes in the world.

8. Name the three largest cities of the world, giving the population of each.

9. What town has the highest elevation in the world ?

10. Which is the longest railway and the longest Canal in the world ?

11. Name half-a-dozen towns which are on the same parallel.

12. Name the places through which the Equator passes.

BOOK I.
ASIA.





20

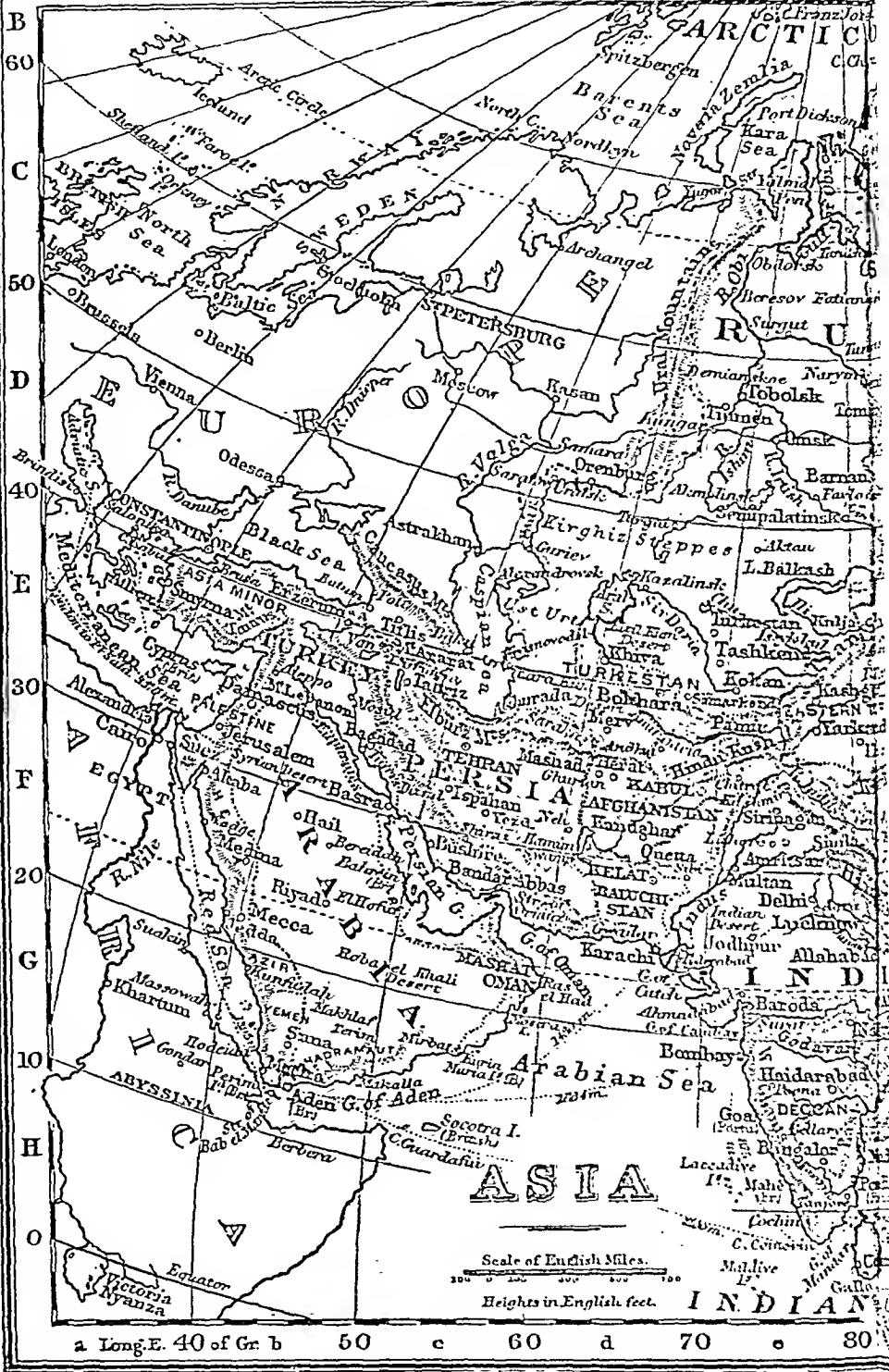
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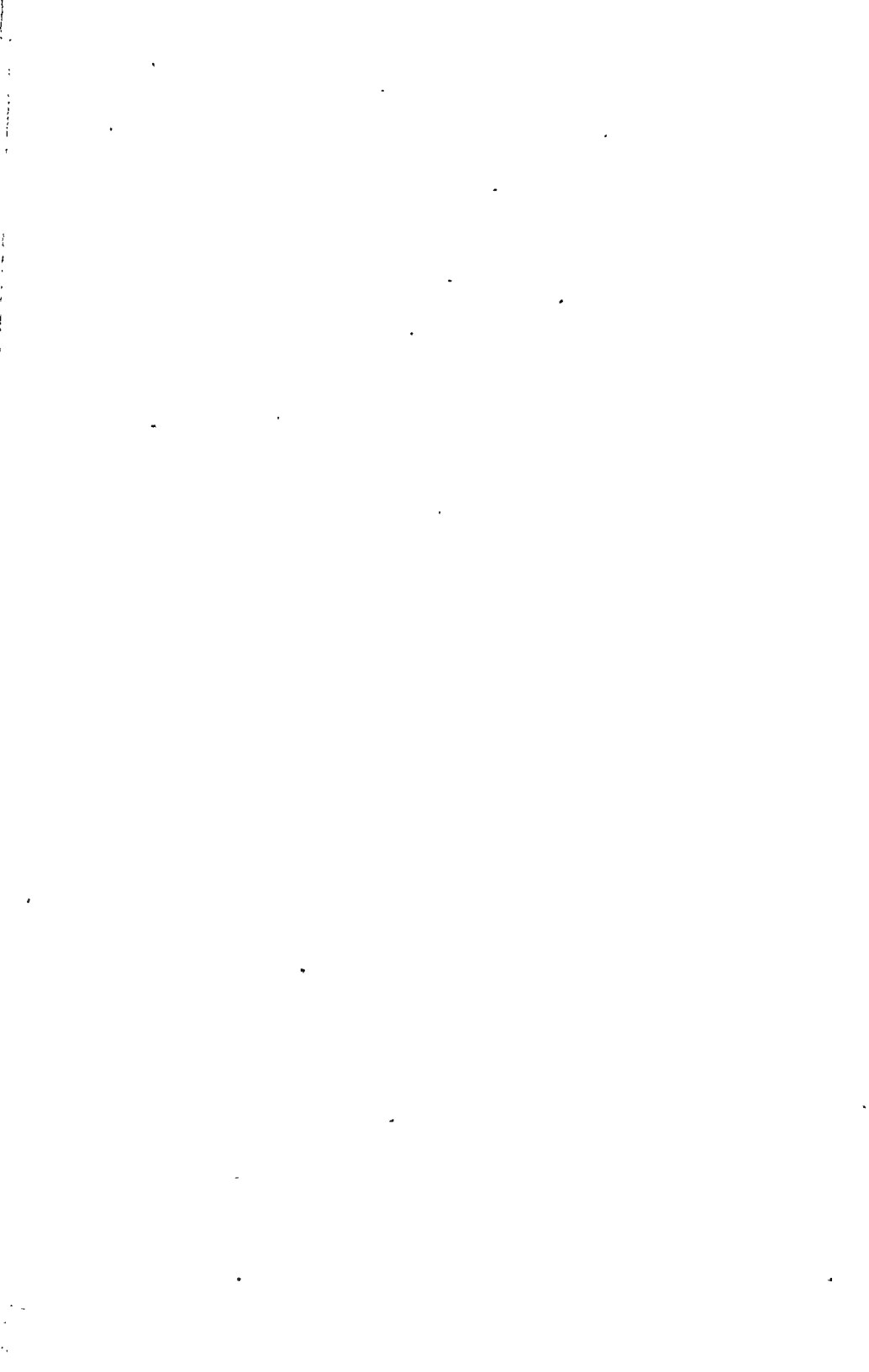
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PART IV.

POLITICAL GEOGRAPHY OF THE WORLD IN OUTLINE.

ASIA.

I.—GENERAL CHARACTERISTICS.

Asia is distinguished from the other continents by the following peculiar features :—

- (1) It is the largest continent, exceeding Europe and Africa together in size.
- (2) It has a very large number of islands and archipelagoes.
- (3) It has large inland seas, lakes, and rivers.
- (4) It has a large proportion of mountainous and highland surface.
- (5) Its central parts are very distant from the sea.
- (6) It contains the most densely-populated tracts of the earth.
- (7) It has the greatest variety of languages, animals and plants.
- (8), “It is a continent of surpassing historical importance. It is the primary home of man, the cradle and nursery of the human family, the seat of the great empires of antiquity, and the scene of Bible events.”

II.—BOUNDARIES.

Asia is bounded on the *north* by the Arctic Ocean ; on the *east* by the Pacific Ocean ; on the *south* by the Indian

Ocean ; and on the *west* by the Red Sea, the Mediterranean, the Black Sea, and Europe.

The *northernmost* point is Cape Chelyuskin ; the *easternmost* point is East Cape on the Behring Strait ; the *southernmost* point is Cape Buru in the Malay Peninsula ; the *westernmost* point is Cape Baba in Asia Minor.

III.—SIZE AND SHAPE.

The greatest length of Asia is about 6,700 miles ; the greatest breadth about 5,300 miles. The total area is about 16 million square miles. In *shape* it may be described as a rough quadrilateral figure.

IV.—COASTS.

North coast.—This coast is shortest and least indented, being ice-bound for nearly the whole year.

East coast.—This is marked by a number of openings, which are cut off from the Pacific Ocean by chains of islands.

South coast.—This is occupied by three great peninsulas—Indo-China, India, and Arabia.

West coast —This is washed by three inland seas—the Mediterranean, the Black Sea and the Caspian.

(1) SEAS AND GULFS.

On the North :—Gulf of Obi.

On the North-east :—Gulf of Anadir, Kamchatka or Behring Sea.

On the East :—Sea of Okhotsk, Gulf of Tartary, Sea of Japan, Yellow Sea. Gulf of Pechili, China Sea, and Gulf of Tonquin.

On the South-east :—Gulf of Siam.

On the South :—Gulf of Martaban, Bay of Bengal, Gulf of Cambay, Gulf of Oman, Persian Gulf, Arabian Sea.

On the South-west :—Gulf of Aden.

On the West :—The Red Sea, the Levant, Sea of Marmora, Black Sea, and Caspian Sea.

(2) STRAITS.

- (1) Strait of Babelmandeb,* connecting the Arabian Sea and the Red Sea.
- (2) Behring Strait, connecting the Arctic Ocean with the Pacific, and joining Asia and America.
- (3) The Strait of Korea, joining the Yellow Sea with the Sea of Japan.
- (4) Macassar Strait, between Celebes and Borneo.
- (5) Strait of Malacca, between Sumatra and the Malay Peninsula.
- (6) Palk Strait, between India and Ceylon.
- (7) Strait of Ormuz, between the Persian Gulf and the Arabian Sea.

(3) ISLANDS.

Liakov or New Siberian Group	...	in the Arctic Ocean.
Aleutian Isles, Kurile Isles, Saghalien, the Japanese Archipelago (including Yesso, Nippon, Sikok, Kiusiu), Loochoo, Formosa, Hongkong, Hainan, the Philippines (including Luzon, Mindanao, Palawan)	...	... in the Pacific Ocean.

* Literally means 'the gate of tears,' so called from the numerous shipwrecks that took place there.

The islands of the Malay Archipelago, (*viz.*,
Sumatra, Java, Bali, Lombok, Sum-
bawa, Timor, Billiton, Banca, Borneo,
Labuan, Celebes, Molluccas, &c.) ... towards the S. E. of
Asia.

Nicobars, Andamans, Cocos, Christmas
Isles, Ceylon, Maldives, and Lacadives, in the Indian Ocean.

Bahrein	...	...	... in the Persian Gulf.
Kuria Muria	...	...	... off the coast of Arabia.
Perim	...	...	... in the Red Sea.
Cyprus, Rhodes, Mitylene, Scio, Cos,	... in the Mediterranean Sea.		

(4) PENINSULAS AND ISTHMUSES.

<i>In the west :—</i>	Asia Minor ;
<i>In the South :—</i>	Arabia, India, and Indo-China ;
<i>In the east :—</i>	Korea and Kamchatka.

The Isthmus of Kra (80 miles wide) joins the Malay Penin-
sula to the mainland ; and the Isthmus of Suez, traversed by the
Suez Canal, connects Asia with Africa.

V.--RELIEF.

The prominent feature of the surface of Asia are :—

(1) A series of lofty plateaux, stretching from east to west
and occupying the central, and a large portion of the southern,
part of the continent.

(2) A great plain extending from the northern edge of the
plateaux to the Arctic Ocean.

(3) Smaller plains sloping to the sea, on the south and
southwest.

(4) The southern tablelands of Arabia and the Deccan.

(1) MOUNTAINS.

The Altai, the Yablonoi, and the Stanovoi

Mountains in Russia.

The Peling and the Nanling in China.

The Yung-ling west of China.

The Kuen Lun north of Tibet.

The Thian Shan north of Chinese Tur-
kestan.

The Hindu Kush in Afghanistan.

Mount Godwin Austen (28,250 feet) is the highest peak of the Hindu Kush.

The Karakoram and the Himalayas ... north of India.

The three highest peaks of the Himalayas are:—(1) *Mount Everest* or *Deodunga* (29,002 feet), (2) the *Kanchinjinga* (28,815 feet), and (3) the *Dhawalgiri* (27,000 feet.)

The Vindhya Hills in the centre of India.

The Eastern Ghats in the east of India.

The Western Ghats in the west of India.

The Nilgiri Hills in the south of India.

The Elburz Mountains in Persia, south of the
Caspian Sea.

Mount Ararat in Turkish Armenia.

The Taurus south of Asia Minor.

Mount Lebanon in Syria.

Mount Sinai in Arabia.

Volcanoes.

A life of volcanoes begins from Sumatra and Java, and extends, through the Philippines and the Japanese and the Aleutian Islands, to the Kamchatka Peninsula.

(2) PLATEAUX.

- (1) The Pamir, called the "Roof of the World," (or *Bám-i-Dunya*) in Central Asia, north of the Hindu Kush, averaging 12,000 feet in height.
- (2) The plateau of Tibet, north of the Himalayas, averaging 13,000 feet in height.
- (3) The plateau of Iran, occupying the greater part of Persia.
- (4) The table-land of Mongolia, in China, about $\frac{3}{4}$ of a mile in height.
- (5) The Deccan, in the south of India.
- (6) Central Arabia.
- (7) Armenia.

(3) PLAINS.

- (1) Plain of Siberia, stretching from the Altai mountains to the Arctic Ocean.
- (2) Maritime Plain of China, lying about the lower courses of the Hoang-Ho and Yang-tse-kiang.
- (3) Plain of the Ganges, in the north-east of India.
- (4) Plain of the Indus, in the north-west of India.
- (5) Plain of the Euphrates and Tigris, which stretches from the Arminian highlands to the head of the Persian Gulf.

VI.—RIVERS.

- (1) *On the Northern slope—*

<i>Name.</i>	<i>Rising from.</i>	<i>Flowing through.</i>	<i>Falling into.</i>
The Obi and its tributary, the Irtish.	Altai Mts.	Russia.	Arctic Ocean.
The Yenise and the Lena.	L. Baikal.	Do.	Do.

(2) *On the East slope--*

<i>Name.</i>	<i>Rising in.</i>	<i>Flowing through.</i>	<i>Falling into.</i>
The Amoor.	Yablonoi Mts.	Russia and Manchuria.	G. of Tartary.
The Yange-tse-kiang, the Hoang-Ho, or Yellow River.	Kuen Lun Mts.	China.	The Pacific.

(3) *On the South slope—*

The Mekong, or Cambodia.	Kuen Lun Mts.	China	China Sea.
The Irawadi, the Brahmaputra, and the Ganges.	Himalayas. Do.	Burma India	G. of Martaban. Bay of Bengal.
The Indus	Do.	Do.	Arabian Sea.
The Euphrates and the Tigris.	Mts. of Turkish Armenia.	Turkey	Persian Gulf.

(4) *Rivers flowing inland—*

The Syr Daria or Jaxartes and the Amu Darya or Oxus	Thian Shan Mts.	Russia.	Aral Sea.
	Hindu Kush.	Russ. Turkestan.	Do.

VII.—LAKES.

(a) *Fresh-water Lakes*—

- (1) Lake Baikal* in Southern Siberia is the largest fresh-water lake in Asia.
- (2) Lake Victoria, in the Pamir Plateau, the source of the Amu-Darya.

(b) *Salt water Lakes*—

- (1) The Caspian Sea, which is the largest salt lake in the world.
- (2) The Aral Sea and Lake Balkash, in the S.-W. of Siberia.
- (3) Lob Nor, in Chinese Turkestan.
- (4) Kokonor, on the Tibetan plateau.
- (5) Platee, Tengrinor, and Mansarowar, in Tibet.
- (6) Lake Hamun, in Persia.
- (7) Chilka and Pulicat, on the east coast of India.
- (8) Colair, east of India.
- (9) Rann of Kutch, west of India.
- (10) Lake Urumiyah, north of Persia.
- (11) Lake Van, in Turkish Armenia.
- (12) The Dead Sea, in Asiatic Turkey.

N. B.—The Dead Sea is the lowest lake in the world, and is intensely salt.

VIII.—CLIMATE.

Every variety of climate is to be found in Asia, which may be divided into three regions in respect of climate—

(1) *In the Southern Region*, the climate is *tropical*, being intensely hot in summer, having no winter, exceedingly wet in certain seasons, and exceedingly dry in others. This region is also subject to violent storms, and the monsoon bursts.

* Lake Baikal is said to be the deepest lake in the world.

(2) *In the Central Region*, the climate is *temperate*, but very varying. The central highlands are very cold throughout the year, and without any rainfall; the plains west of the Caspian are arid and dry and intensely hot in summer and exceedingly cold in winter; the lower lands enjoy a moist and temperate climate.

(3) *In the Northern Region*, the climate is *arctic*. Hard winter prevails for nine months together, and the ground is all covered with ice. This region includes the coldest known spots in the world.

IX. —PEOPLE.

1. **The population of Asia.**—The population of Asia is estimated at 750 millions, *i.e.*, three-fifths of the total population of the globe. But the rate of population per square mile is less than that of Europe, being only 47, compared with 101 of Europe. This is because large tracts of the continent are practically uninhabited.

2. **The chief Races of Asia.**—The chief Races inhabiting Asia are—

- (1) the Caucasian, occupying south-western Asia and India;
- (2) the Mongolian, occupying China, Indo-China, and Japan.

3. **The chief Religions of Asia.**—Asia is the birth-place of all the great Religions of the world—

- (1) Buddhism, which prevails in China, Japan, Indo-China, and Ceylon, and claims about 425 millions;
- (2) Hinduism, which prevails in India, and claims 208 millions;
- (3) Mohamedanism, which prevails in Turkey, Arabia Persia, and India, and is professed by 120 millions;

- (4) Christianity, which is the religion of Asiatic Russia, and numbers a few in some other countries also.

X.—PRODUCTS.

1. Minerals—

- (1) Gold and other precious metals are found in the Altai mountains in Siberia.
- (2) Iron ore is found in most Asiatic countries.
- (3) Coal is found in China, Siberia, Persia, Asia Minor, Japan, and India.
- (4) Copper—Japan, India, and Siberia.
- (5) Tin—the Malay Peninsula, which supplies half the world.
- (6) Petroleum—Burma.

2. Vegetables—

- (1) Cereals—India, China, Indo-China, Japan and Asia Minor.
- (2) Sugar-cane—India.
- (3) Durgs and spices—Southern Asia.
- (4) Tobacco—India, Asia Minor, and Japan.
- (5) Cotton—India, China, Asia Minor, and Turkestan.
- (6) Jute—North-eastern India.

3. Industries and Manufactures—

- (1) Tea—India, Ceylon, China, and Japan.
- (2) Opium—India, Persia, and China.
- (3) Silk—China, Japan, and India.
- (4) Cotton fabrics—Do.

XI.—TRADE AND COMMERCE.

1. Imports.—The chief imports are cotton, linen and silk goods, articles of clothing, the useful metals, and machinery.

2. **Exports**—The chief exports are tea, coffee, silk, cotton, dye-stuffs, oil-seeds, spices, rice, wool, jute, and timber.

3. **Trade Harbours**—

Symrna, in Asia minor ;
Bombay, and Calcutta, in India ;
Colombo, in Ceylon ;
Singapore, in the Malay Peninsula ;
Hong-kong and Shanghai, in China ;
Yokohama, in Japan.

XII.—POLITICAL DIVISIONS.

These are :—I. India. II. The Malay Peninsula, and Siam. III. Indo-China, IV. The Chinese Empire. V. Japan. VI. Siberia. VII. Russian Turkestan. VIII. Caucasia. IX. Turkey in Asia. X. Arabia. XI. Persia. XII. Afghanistan.

Questions.

1. Enumerate the principal features in which Asia differs from the other continents.
2. Name the large straits on the east of Asia, and the seas which they connect.
3. Describe the principal features of (1) the coast-line, and (2) the relief, of Asia.
4. Name the islands of Asia lying in the Pacific Ocean and the Indian Ocean.
5. What parts of Asia are drained by rivers flowing to inland seas or lakes ? Name the rivers or lakes into which they flow.
6. What is the special character of the climate over the greater part of Asia ? Into what three regions may Asia be divided in respect of climate ?
7. Show how Asia is the birth-place of the chief religions of the world.
8. What parts of Asia are richest in minerals ? Where are coal, gold, tin, and petroleum chiefly found ?
9. Name the political states situated within Asia.

(A.)—INDIA.

*See under PART V.**

(B.)—THE MALAY PENINSULA.

I.—POSITION AND BOUNDARIES.

The Malay Peninsula is joined to the mainland by the Isthmus of Kra. It is bounded on the west by the Malacca Strait, and on the east by the China Sea, and points off in Cape Buru.

II.—DIVISIONS.

The greater part of the peninsula consists of small states, the more northern of which are subject to the King of Siam, while the southern ones are under native rulers. The portion under British rule is called the Straits Settlements, including.

- (1) Singapore—a small island at the southern extremity of the peninsula ;
- (2) Penang—a small island on the west coast ;
- (3) Malacca—a district west of the peninsula ;
- (4) Wellesly Province—a district on the mainland, opposite Penang.

III.—SURFACE.

Except in the South, the whole peninsula is mountainous and is intersected by numerous rivers.

IV.—CLIMATE.

The climate is hot and moist but cooler and drier than that of the adjacent mainland.

* India, though regarded only as a country, is really a continent and since the Geography of India is more important to the Indian student than that of any other country, it has been treated with fuller detail in a separate 'Book' of this volume.

V.—PRODUCTS.

- (1) The chief *mineral* product is tin, which is found in large quantities.
- (2) Of *agricultural products*, rice, tapioca, pepper, cloves, sugar-cane, sago, and coffee are produced in large quantities.

VI.—PEOPLE.

The population is about one million, chiefly Malays and Chinese, with a small proportion of Indians. The Malays are Mohamedans; the Chinese, Buddhists.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Rice, cotton goods, fish, tobacco and opium.
2. *Exports*.—Tin, gums, tapioca, cane, and spices.

VIII.—IMPORTANT TOWNS.

- (1) Singapore, the capital of the Straits Settlements, is an important British naval station, having a fine harbour and an extensive trade.
- (2) George Town, the chief town of Penang.
- (3) Malacca, the chief town of Malacca.
- (4) Johor Bahru, the chief town of the native states.

Questions.

1. Describe the geographical position of the Malay Peninsula.
2. Into what political divisions has the Malay Peninsula been divided? What portion is called the Straits Settlements?
3. Describe briefly the surface features of the peninsula and mention what kind of climate it has.
4. Name the chief products and the principal exports and imports of the peninsula.
5. Name the chief towns of the Malay Peninsula, and point out the importance of Singapore.

(C.)—SIAM.

I.—POSITION AND BOUNDARIES.

Siam* is situated to the east of the Pegu and Tenasserim divisions of Burma and north of the Gulf of Siam. It is bounded on the *north* by Burma, on the *east* by Annam, on the *south* by Kambodia, the Gulf of Siam, and Malacca, and on the *west* by the Bay of Bengal and Lower Burma.

II.—SURFACE OR RELIEF.

Siam consists of a large valley watered by the Menam, and the high tableland to the east which forms the waterparting between the Menam, and the Mekong.

There is a mountain range, called the Mountains of Siam, running north and south between West Siam and Tenasserim, and continuing in a south-easterly direction to the end of the peninsula.

III.—CLIMATE.

The climate is healthy on the tableland and along the mountains ; but in the plains and forests, malarious and injurious to health.

IV.—PRODUCTS.

- (1) The chief *minerals* are copper, lead, iron, tin, &c.
- (2) *Vegetables* include rice, pepper, cardamoms, sugar-cane, tobacco and coffee.

V.—PEOPLE.

The *population* of Siam is about $6\frac{1}{2}$ millions. It consists of Laotians or Shans, Siamese, Chinese and Malays. Buddhism is the prevailing religion, and throughout the country education is chiefly in the hands of priests of whom the total number is 88,000.

* Siam is called *Thai* (=free) by the natives.

VI.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, treasure, hardware, opium, kerosine oil, sugar,—total value £ 5½ millions.
2. *Exports*.—Rice, teak, pepper, fish, hides, salt, &c.—total value £ 7½ millions.

VII.—IMPORTANT TOWNS.

(1) Bangkok, the capital, lying on the left bank, and near the mouth, of the Menam.

N. B.—Bangkok is called the “ Venice of the East ” because, as in Venice, all locomotion is done here by water, and the streets are all canals.

- (2) Paknam, at the mouth of the Menam.
- (3) Ayuthia, the old capital, north of Bangkok.
- (4) Chantabun, on the east coast of the Gulf.

VIII.—GOVERNMENT.

The Government is an absolute monarchy, the executive power being exercised by the king, advised by a Cabinet (*Senabodi*) consisting of the heads of the various departments. For administrative purposes the country is divided into 41 districts, each under a Governor, who is generally one of the relations of the king.

Questions.

1. What is the native name of Siam ? Describe its position in the Indo-Chinese peninsula.
2. Describe the general features of the relief of the country.
3. Name the principal products and the chief exports and imports of Siam.
4. What is the character of the government of Siam ? Name the principal towns.
5. What town in Asia is called the “ Venice of the East ” and why ?

(D.)—FRENCH INDO-CHINA.

I.—POSITION AND BOUNDARIES.

French Indo-China comprises the eastern portion of the Indo-Chinese peninsula. It consists of five States—Cochin China, Cambodia, Annam, Tongking and Laos. It is bounded on the *north* by China, on the *east* by the China Sea and the Gulf of Tongking, on the *south* by the Gulf of Siam and the China Sea, and on the *west* by Burma and Siam.

II.—SURFACE.

The eastern coast is low alluvial plain, the western part is a plateau covered with dense forest, and the north is mountainous.

III.—RIVERS AND LAKES.

(1) The Mekong, rising in Tibet, and falling into the China Sea ;

(3) The Songkoi or Red River, rising in Yunnan, and falling into the Gulf of Tongking.

Tonle-sap is a large fresh-water lake in Cambodia.

IV.—CLIMATE.

The climate is hot, moist and unhealthy.

V.—PRODUCTS.

(1) *Minerals*.—Coal, copper, iron.

(2) *Agricultural products*.—Rice.

VI.—PEOPLE.

The population is about $18\frac{1}{2}$ millions. The inhabitants are partly Mongolian and partly Aryan, and Buddhism is the prevailing religion.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, hardware, machinery, petroleum.

2. *Exports*.—Rice, sugar, pepper, cotton.

VIII.—IMPORTANT TOWNS.

- (1) Hanoi, the capital of Tongking, on the Songkoi.
- (2) Haiphong, the chief port of Tongking.
- (3) Hue, the capital of Annam.
- (4) Saigon, the capital of French Indo-China.
- (5) Pnom-Penh, the capital of Cambodia.

IX.—GOVERNMENT.

The whole country is ruled by a Governor-General, assisted by a Secretary-General, and each of the States has at its head an officer bearing the title of Resident-Superior or Lieutenant-Governor, according as the State is a Protectorate or a direct French colony.

Questions.

1. What countries are comprised in French Indo-China? Give its boundaries.
2. Describe the surface features of the country.
3. Name the two chief rivers of French Indo-China, and describe the course of each briefly. What and where is Tonle-sap?
4. Name the principal products and the chief exports of the country.
5. To what race do the inhabitants of French Indo-China belong, and what is the prevailing religion of the country?
6. Name the chief towns of French Indo-China, and describe the form of Government.

(E.)—THE CHINESE EMPIRE.

The Chinese Empire* is bounded on the *north* by Russian Asia, on the *east* by the Pacific, on the south by Indo-China and India, and on the *west* by Turkestan. It comprises the greater part of Eastern and Central Asia and is $4\frac{1}{2}$ million square miles in extent, with a population of 433 millions.

* The Chinese Empire is called by the natives *Tath-Chang-kuo* (=the celestial empire.)

The *chief divisions* are China proper, and the dependencies of Manchuria, Mongolia, Zungaria, Chinese Turkestan, and Tibet.

1. CHINA PROPER.

I.—BOUNDARIES AND EXTENT.

China Proper occupies the south-eastern portion of the Empire, and is bounded on the *north* by Mongolia and Manchuria, on the *east* by Korea, the East China Sea and the Yellow Sea, on the *south* by Burma, Annam, and the China Sea, and on the *west* by Tibet and Burma. It has an area of $1\frac{1}{2}$ million square miles, with a population of about 380 millions.

II.—COASTS.

1. *Capes*.—Conway, and Yang-tsi.
2. *Gulfs*.—Gulfs of Liao-tung and Pechili, Hang-chow Bay, Bias Bay, and Mirs Bay.
3. *Straits*.—Strait of Pechili, connecting the Yellow Sea and the Gulf of Pechili; Strait of Formosa, connecting the Eastern Sea and the China Sea; the Hainan Strait, connecting the China Sea with the Gulf of Tung-king.
4. *Peninsulas*.—Shan-tung, Wei-hai-wei, and Kiau-chau.

III.—ISLANDS.

- (1) Tsung-ming, at the mouth of the Yang-tse-kiang;
- (2) Chusan, at the entrance to Hang-chow Bay;
- (3) Formosa, in the China Sea;
- (4) Hong-kong, at the mouth of the Canton river;
- (5) Hainan, between the China Sea and the Gulf of Tonquin.

IV.—SURFACE.

The western part, from north to south, is mountainous; the south-east is hilly; the north-east, low and flat.

1. *Mountains*.—The Yun-ling, the Peling, the Tapa-ling, and the Nan-ling.

2. *Plains*.—The chief one is the Great Plain of China, covering an area of 210,000 square miles.

V.—RIVERS AND LAKES.

1. *Rivers*.—The Pei-ho, (=the “White river”) falling into the Gulf of Pechili; the Hoang-ho (=the “Yellow river”) rising in Tibet and falling into the Gulf of Pechili; the Yang-tse-kiang (=the “son of the Ocean”), rising in Tibet and falling into the East China Sea; the Si-kiang or Canton River, rising in Yunan, and falling into the China Sea.

2. *Lakes*.—The largest is the Tungting lake. Among smaller ones are Poo-yang-hoo and Tao-hoo.

VI.—CLIMATE.

The climate of China is varying; in the north the summers are genial and the winters cold and dry. The west is very cold, being mountainous; but in the east the climate is milder, the country being near the sea.

VII.—PEOPLE.

The chief race that inhabits China is the *Mongolian*, and the prevailing religion is Buddhism. The Emperor is the sole high priest of the Empire and he alone can perform the great religious ceremonies.

VIII.—PRODUCTS.

China is essentially an agricultural country, and the land is all freehold, held by families on the payment of an annual tax. The *mineral* products include coal, iron, copper and china clay. The *agricultural* products include wheat, barley, maize, rice, sugar, opium, tea and silk.

The Chinese are famous for their porcelain, silk, embroidery, and lacquer ware.

IX.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, opium, metals, kerosine, and woollen goods.

2. *Exports*.—Tea, silk, sugar, and chinaware.

X.—GOVERNMENT.

The government is despotic. The Emperor is assisted by a Grand Council consisting of six members, and two other Councils, or advisory boards consisting of the heads of the chief departments of State. The State officials are called *Mandarins* and are selected by competitive examination. Independent of the Government, and theoretically above the central administration, is the 'Board of Public Censors,' consisting of from 40 to 50 members, all of whom are, by an ancient custom, privileged to present any remonstrance to the sovereign. In practice the imperial power is largely autocratic, and is manifested by the issue of Decrees and Edicts.

XI.—IMPORTANT TOWNS.

(1) Peking, the capital, with a population of above one million.

(2) Singan, in the centre of northern China, the seat of the imperial court.

(3) Tien-tsin, the seaport of Peking.

(4) Shanghai, the chief trade mart of northern China.

(5) Hang-chau, famous for its silk industry.

(6) Hankow, the centre of the tea trade.

(7) Nanking, the old capital of China, but now a decaying city.

(8) Ning-po, capital of the province of Kiang-su.

(9) Canton, the most populous city in China and formerly a British possession.

(10) Fu-chau, capital of Fo-kien.

- (11) Amoy, formerly the chief seat of British commerce.
- (12) Chengtu, in the west.

N. B.—The island of Hong-kong has been a British possession since 1842. Its chief town is Victoria.

2.—MANCHURIA.

Manchuria lies in the north-east of the Chinese Empire, (lying between the province of Chihli and the Amur river, and extending from the Hingan mountains eastwards to Korea and the Ussuri river) and covers an *area* of 363,000 sq. miles. The *surface* is hilly in the west and north-west, and level in the east and south-east. The chief *mountains* are the Khingan and the Ithuri. The chief *rivers* are the Amur, the Sungari, and Usuri. The *climate* is one of extremes, being very hot in summer and very cold in winter. The chief *products* are wheat, barley, rye, hemp, and cotton. The *population* is 3 millions and consists of Chinese and Manchus, a military race to which the ruling dynasty of China belongs. The old *capital* was Mukden, the present one, Kirin. Port Arthur is an important *seaport* of Manchuria, now in the possession of Japan. The Manchurian railways extend from Shanghai-kwan on the frontier of Chihli northwards to Hsin-min-tun and Mukden, and round the Lias-tung gulf to Port Arthur, which is directly connected with Mukden by the Russian line running northwards to Kharbin, 615 miles from Port Arthur.

3. MONGOLIA.

Mongolia lies to the west of Manchuria and contains the Great Desert of Gobi or Shamo. Its *area* is $1\frac{1}{3}$ million sq. miles. The chief *mountains* are offshoots of the Altai system. The chief *rivers* are the Upper Yenisei and the Hoang-Ho. There are numerous *lakes*, the chief one being Kosso Gol. The *climate* is dry, harsh,

and inhospitable. The chief *products* are wheat, barley and coarse grass. The *population* is about $2\frac{1}{2}$ millions, and consists of various Mongolian tribes, some of which are nomadic Mongols and Kalmucks, and others settled. The *capital* is Urga, one of the most sacred cities of the Buddhists.

4. ZUNGARIA.

Zungaria lies north-west of Mongolia, and is the richest part of the Chinese Empire excluding China Proper. The capital is Kulja.

5. CHINESE TURKESTAN.

Chinese Turkestan lies to the east of Pamir between the Tian-shan and Kuen-lun mountains. The country is full of deserts and fertile valleys, inhabited by Turki Mohamedans and nomad Mongolians. The *chief towns* are Yarkand and Kashgar.

6. TIBET.

Tibet, situated to the north of India, forms the highest part of the Central Asian tableland. It is bounded on the *north* by Chinese Turkestan and Mongolia, on the *east* by China Proper, on the *south* by China and India, and on the *west* by Kashmir. The *surface* is traversed in all directions by *mountains*,* of which the chief are the Himalayas, the Thian-shan, the Yung-ling and the Tise-gangoi. Many of the largest rivers of Asia take their rise in Tibet, such as the Indus and the Brahmaputra. Several of the *lakes* of Tibet are considered sacred, such as Lake Tengri Nor, Mansarowar, and Palti. The *climate* is dry, and almost everywhere exceedingly severe. The *population* is about $6\frac{1}{2}$ millions,

* Tibet is hence called the "Switzerland of Asia."

mostly Mongolian. The country being bleak and mountainous and strangers having been jealously secluded, wide regions are still unexplored.

The *Government* is chiefly sacerdotal, the highest authority being the Grand Lama who lives at Lassa, and who is supposed to represent Buddha. He acts through a minister or regent, appointed for life by the Chinese Government from among the chief Tibetan Lamas. The prevailing religion is *Lamaism*, a corrupt form of Buddhism.

Questions.

1. Name the chief political divisions of the Chinese Empire together with the capital of each.
 2. What part of the empire is China proper? Give its boundaries and describe the chief features of its coast and surface.
 3. Describe (1) the climate, (2) the people, and (3) the government of China.
 4. What do you know of the products and industries of China? Name the principal exports and imports.
 5. Name the principal towns of China and state for what each is famous.
 6. Give a short account of Manchuria.
 7. What kind of country is Mongolia? In what part of the world is it situated?
 8. What and where are Zungaria and Chinese Turkestan?
 9. Mention the most remarkable facts with regard to Tibet and its inhabitants, dwelling specially on the Government.
 10. What and where are the following :—
Pechili Gulf; Wei-hai-wei; Yarkand; Pei-Ho; Macao; Hainan; Lob-Nor; Kulja; Hangchau; Lassa; Port Arthur; Sungari; Canton; the Khingans; Urga; Tien-tsin.
 11. What country is called the "Switzerland of Asia" and why?
-

(F.)—THE JAPANESE EMPIRE.

Japan,* the “Empire of the rising sun,” consists of a long chain of islands, of which the chief are Yezo, Honshiu, Shikoku, Kiushiu, and Formosa.

I.—POSITION AND EXTENT.

Japan is bounded by the Sea of Okhotsk in the *north*, the Pacific on the *east* and *south-east*, the Tung-hai on the *south-west*, and the Sea of Japan on the *west*.

The total *area* of the empire is nearly 244,000 sq. miles.

II.—SURFACE.

Japan is traversed by lofty mountain ranges, containing many volcanoes.

Fusiyama or Mount Fuji is considered as a sacred mountain.

There are no large *rivers* in Japan, but there are numerous small streams of little use for navigation.

Lake Biwa is famous for its beautiful scenery.

III.—CLIMATE.

The climate of Japan is generally temperate and healthy, but the north is much colder than the south. The Kuro Siwo,† a warm ocean current, flows along the eastern coasts, and makes the climate milder. The rainfall is abundant all the year round.

IV.—PRODUCTS.

Japan is very rich in *minerals*, which include coal, iron, gold, silver, copper, lead, and sulphur. Among *agricultural products*

* The Japanese call their country “Nippon.” Japan is sometimes called the “empire of the rising sun” because it is the most eastern country of the world. It is also sometimes called the “Asiatic Britain” because it occupies in Eastern Asia the same position that Britain does in Western Europe.

† See p. 59 *ante*.

may be mentioned rice, barley, rye, wheat, sugarcane, silk, tea, bamboo, camphor, lacquer, &c. The *industries* of the country are rapidly developing. Silk, cotton, matches, and in fact now every commodity of value and use, are manufactured in Japan, which already holds a good place in the world's market.

V.—PEOPLE.

The population of Japan exceeds 44 millions and is chiefly of the Mongolian race. The prevailing religion is Buddhism. The Japanese are a most enterprising race, and have recently made wonderful progress in western civilization.

VI.—TRADE AND COMMERCE.

1. *Imports*.—Raw cotton, rice, sugar, cotton yarn, woollen goods, kerosine, hardware and machinery.

2. *Exports*.—Silk, cotton, coal, tea, matches, copper, matting, porcelain, camphor, lacquered ware.

VII.—GOVERNMENT.

Until 1889 the Government was an absolute monarchy, but in that year the Mikado* or Emperor voluntarily gave his people a constitution. The Emperor now exercises the whole of the executive powers with the advice and assistance of the Cabinet Ministers, who are responsible to him, and are appointed by himself. He also exercises the legislative power with the consent of the Imperial Diet, which consists of a House of Peers and a House of Representatives. There is also a Privy Council, who are consulted by the Emperor on important matters of state. The Emperor can declare war, make peace, and conclude treaties.

VIII.—ARMY AND NAVY.

The Japanese army is formed on the German model, and is now in the very front rank of the world's armies. Service in the army

* The Emperor of Japan is styled the 'Mikado' (=the venerable).

(or navy) is universal and compulsory. The field army consists of 19 divisions, three to five divisions forming a strength of from 80,000 to 130,000 men. The total strength of the field army at the present day may be taken at about 600,000.

The Japanese navy consists of some 300 vessels, including armoured cruisers, torpedo gunboats, destroyers, sub-marines, etc. Japan now builds and equips her own warships. Armour factories are installed at Kuri.

IX.—IMPORTANT TOWNS.

The following are the *chief towns* of Japan :—

- (1) Tokyo, the capital (formerly called Fedo), with a population of over 2 millions.
- (2) Yokohama, the chief centre of foreign trade.
- (3) Osaka, the “ Venice of Japan,” is the second city in point of size and population.
- (4) Kioto, the old capital.
- (5) Nagasaki, on the island of Kiushiu, was formerly the only seaport open to foreigners.
- (6) Kobe, the new port of Kioto.

KOREA.

Korea is a peninsula projecting south between the Sea of Japan and the Yellow Sea. Its *area* is about 86,000 sq. miles. The coast-line is fringed by *islands* of which the largest are Amherst Island and Daniel Island. The *chief mountains* are the Pipa Shan mountains and the Chang-pe-shan mountains. The *chief rivers* are the Ula flowing into the Yellow Sea, and the Touman falling into the Sea of Japan.

The *climate* is hot in summer and severe in winter. The *population* is estimated at 9 to 10 millions and is of Mongolian origin.

Government,—Upto 1894 Korea was an absolute monarchy, owning the Chinese Emperor as Suzerain. Subsequently it came under Japanese and Russian influence. In 1907 Japan formally annexed Korea.

Chief Towns.—(1) Seoul, the capital ; (2) Chemulpo (3) Fusan. and (4) Yuensan, seaports.

Questions.

1. What country is called the "Empire of the Rising Sun," and why ? Describe its position and extent.
2. Give some account of the surface features of Japan.
3. Describe the climate of Japan. Give a short account of its inhabitants.
4. Name the principal products and the chief exports and imports of Japan.
5. Describe the government of Japan, and name six of the chief cities of the empire.
6. Give a short account of the Japanese army and navy.
7. What and where are the following :—
Formosa ; Kobe ; Kuro Siwo ; Fusi-yama ; Biwa ; Yezo ; Yokohama ; Honshiu.
8. Why has Japan been called the ' Asiatic Britain ' ?
9. Give a short geography of Korea.

(G.)—SIBERIA.

Siberia* is one of the three political divisions of Asiatic Russia —Siberia, Russian Turkestan, and Caucasias.

* Siberia is said to derive its name from *Sibir*, the capital of an old Tartar kingdom on the banks of the Irtysh.

I.—POSITION AND EXTENT.

Siberia is bounded on the *north* by the Arctic Ocean ; on the *east* by the Behring Sea, the Sea of Okhotsk, and Japan Sea ; on the *south* by the Chinese Empire and Russian Turkestan ; and on the *west* by European Russia. The *area* is nearly five million sq. miles.

II.—SURFACE.

Siberia consists chiefly of a vast plain rising gradually from the Arctic Ocean to the Altai mountains. The chief *mountains of Siberia* are (1) the Altai mountains, (2) the Sayan mountains, (3) the Yablonoi mountains, and (4) the Stanovoi mountains.

III.—RIVERS.

(1) The Obi, rising in the Altai mountains and falling into the Arctic Ocean, having the Irtysh as its chief tributary.

(2) The Yenisei, rising in Lake Kos Gul, and falling into the Arctic Ocean, having the Angara as its chief tributary.

(3) The Lena, rising in the Baikal mountains, and falling into the Arctic Ocean.

(4) The Amur, rising in the Yablonoi Mts. and falling into the Sea of Okhotsk.

IV.—CLIMATE.

The climate is extremely cold and the grounds are frozen for nine months in the year. The short summers, on the other hand, are remarkable for their heat, and for the rapidity with which vegetation springs up and grows.

Verkhoyansk in Siberia is believed to be the coldest place in the world.

V.—PRODUCTS.

Siberia is one of the richest countries for *metals*, producing large quantities of gold, silver, and platinum. Of *vegetation* there

is little, except in the south, where wheat, barley, and rye are grown. The country abounds in wild *animals* which are prized for their furs. The mammoth was formerly numerous in Siberia, and its bones are found in large numbers and used as ivory.

VI.—PEOPLE.

The *population* is more than five millions, the greater portion of which consists of Russian convicts sentenced to work in the mines. The native *races* consist of various wandering tribes, such as the Samoiedes (the Esquimaux of Asia), the Khirghizes, the Ostiaks, the Tunguses, and Buriats.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Tea, silk, machinery, and manufactured articles of all kinds.

2. *Exports*.—Metals, furs, and agricultural produce.

Since the opening of the *Trans Siberian Railway*, there has been a great development of the country's trade.

VIII.—GOVERNMENT AND TOWNS.

Siberia is divided into four administrative provinces, each under a governor who represents the Czar. The *chief towns* are:—

- (1) Irkutsk, the capital, on the Angara;
 - (2) Tobolsk, on the Irtysh;
 - (3) Omsk, capital of West Siberia;
 - (4) Tomsk, the seat of the Siberian University;
 - (5) Vladivostok, on the Pacific, in an important naval station, and the only port that Russia possesses on the Pacific.
-

KAMCHATKA.

Kamchatka is a large peninsula to the east of Siberia. The country is very mountainous. The chief town is Petropaulovski on the S. E. coast.

(H.)—RUSSIAN TURKESTAN.

I.—POSITION AND EXTENT.

Russian Turkestan or Central Asia comprises the country lying between European Russia and Siberia on the *north*, the Chinese Empire on the *east*, Afghanistan and Persia on the *south*, and the Caspian Sea and European Russia on the *west*.

II.—SURFACE.

The south and west are mountainous, but in general the surface is low, with vast sandy plains sloping towards the north.

III.—RIVERS AND LAKES.

- (1) The Oxus, (or Amu Darya), rising in the Pamir, and falling into the Aral Sea ;
 - (2) the Jaxartes, (or Sir Darya), rising in the Tian-shan Mts. and falling into the Aral Sea ;
 - (3) the Ili, rising in the Tian-shan and falling into Lake Balkhash ;
 - (4) the Ural, falling into the Caspian Sea,
 - (5) the Zarafshan and (6) Murghab dry up in the sands.
- Lake Issik-Kul is the highest of the highland lakes.

IV.—CLIMATE.

The heat and cold are both extreme. The greater part of the country is arid and barren, and sand-storms are common and severe.

V.—PEOPLE.

The bulk of the population is of *Turki* stock and are Mohame-dans. The chief *tribes* are the Usbeks in Khiva and Bokhara, the Khirghizes in the north, and the Turkomans. The people are very fond of horses which serve not only as beasts of burden but are also used as food. The national drink is mare's milk prepared into a kind of wine called "Koumiss."

VI.—IMPORTANT TOWNS.

(1) Tashkand, the capital; (2) Khokan, in the east (famous as the home of Babar); (3) Bokharà, the capital of the province of that name and once a great centre of arts and learning; (4) Samarkand, the famous capital of Timur the Tartar conqueror; (5) Merv, on the Murghab once known as the "mother-city of Asia"; (6) Khiva, the capital of the province of that name, once notorious for its slave market.

(I.)—CAUCASIA.

I.—POSITION AND EXTENT.

Caucasia forms the westernmost division of Asiatic Russia, situated between the Caspian and Black Seas and having an area of 140,000 sq. miles.

II.—SURFACE.

The country is mountainous, the Caucasus range running obliquely through the land from one end to another. The highest peak is Mount Elburz. The chief *rivers* are the Kuban, the Tarek, and the Aras, and the largest lake is Lake Gokcha.

III.—PEOPLE.

The *population* is slightly over nine millions. The northern plains are inhabited by *Russians* and *Tartars*; the southern ones by *Armenians* and others of Iranian stock.

The Georgians, the original inhabitants, occupy the highlands of upper Kura and are the most handsome people in the world. The Circassians occupy tracts south of the Kuban.

IV.—IMPORTANT TOWNS.

(1) Tiflis, the capital, situated on the left bank of the Kura ; (2) Baku, on the Caspian ; (3) Vladikavkaz, (4) Batum, the chief port on the Black Sea ; (5) Kars, a historical fortress taken from the Turks in 1872 ; (6) Erivan, the old capital of Russian Armenia ; (7) Alexandrapol.

Questions.

1. Give the approximate area and population of the three great divisions of Asiatic Russia.
2. Describe (1) the surface, (2) the climate, (3) the people, of Siberia. What is the origin of the name *Siberia* ?
3. Name the chief rivers of Siberia, stating where they rise and where they fall.
4. Mention the chief products of Siberia, and name the chief towns of the country.
5. Give the geographical position of Russian Turkestan. By what other name is it known ?
6. Name the chief rivers of Russian Turkestan, and give a short account of its inhabitants.
7. What part of Russian Asia is called *Caucasia* ? Give a short account of its people.
8. What and where are the following :—
The Anagra ; Verkhoyansk ; Irkutsk ; Vladivostok ; Zarafshan ; Issik-kul ; the Khirghiz ; Samarkand ; Elburz ; Gokeha ; Alexandrapol.

(J.)—TURKEY IN ASIA.

Asiatic Turkey is bounded on the *north* by the Black Sea and Asiatic Russia, on the *east* by Persia, on the *south* by Arabia and

the Mediterranean, and on the *west* by the Mediterranean. The total *area* is about 700,000 sq. miles, and the population about 18 millions. Historically, Asiatic Turkey is the most interesting country in the world, for the following reasons:—

- (1) here were the seats of the ancient monarchies of Assyria and Babylon ;
- (2) it is in this country that Palestine lies ;
- (3) it was the earliest seat of Greek civilization

The chief divisions of Asiatic Turkey are:—

1. Asia Minor.
2. Armenia and Kurdistan.
3. Mesopotamia.
4. Syria and Palestine.
5. Turkish Arabia.

These will be described one by one.

1. ASIA MINOR.

Asia Minor* is a large peninsula lying between the Black Sea and the Mediterranean, with a total area of 193,000 sq. miles.

I.—SURFACE.

The surface consists of a high tableland bounded on the north by ranges of hills extending along the shore of the Black Sea, and on the south by the Taurus Mts.

II.—ISLANDS.

(1) The Sporades, lying off the west coast, of which the largest are Lemnos, Mitylene, Khios, Samos and Rhodes.

(2) Cyprus, in the Mediterranean belonging to Great Britain.

III.—RIVERS AND LAKES.

The most important rivers are the Kizil-Irmak, flowing into the Black Sea, and the Meander falling into the Mediterranean. The largest lake is Lake Tuz-gol.

* Asia Minor is also called Anatolia.

IV.—CLIMATE.

In the west, the climate is temperate and pleasant ; in the north the summers are damp and the winters cold ; in the centre the climate is one of extremes.

V.—PRODUCTS.

Copper, silver, lead, iron, and coal are among the chief *minerals*. Among *vegetable* products may be mentioned grapes, olives, figs, barley, cotton and turpentine.

VI.—PEOPLE.

The inhabitants are chiefly Turks, but Greeks, Arabs, Jews and Armenians are numerous. The population is just over 9 millions.

VII.—IMPORTANT TOWNS.

- (1) Smyrna, an important port and a great commercial centre ;
- (2) Scutari, on the Bosphorus, is the eastern suburb of Constantinople ;
- (3) Brusa, the old Turkish capital ;
- (4) Angora, famous for the silk-like hair of the Angora goat ;
- (5) Trebizond, an important port on the Black Sea ;
- (6) Kaisarieh, standing at the junction of several trade routes ;
- (7) Sinope, another port on the Black Sea.

Asia Minor contains the sites of many cities famous in the ancient history of Greece, such as those of Troy, Sardis, Ephesus, Miletus, Rhodes, Tarsus, Antioch. &c.

The chief towns of Cyprus are :—

- (1) Nicosia, the capital ;
- (2) Lanarka, the chief trading centre.

2. ARMENIA AND KURDISTAN.

I.—POSITION AND EXTENT.

Armenia is a high plateau south-east of the Black Sea. Kurdistan (the ancient Assyria) is to the south of Armenia. The total area of the two together is about 72,000 sq. miles.

II.—SURFACE.

The country is largely a tableland. Mount Ararat is on the eastern frontier of Armenia, and it is there that three empires (Turkey, Russia, and Persia) meet. The chief rivers are the Euphrates and the Kur, with its tributary the Aras. Lake Van is a large salt-water lake.

III.—PEOPLE.

The Armenians are, like the Jews, scattered all over the world, and are Christians by religion. The Kurds are a wandering race much given to robbery. The population is $2\frac{1}{2}$ millions.

IV.—IMPORTANT TOWNS.

- (1) Ezerum, the capital, situated near the centre ;
- (2) Van, on the lake of that name ;
- (3) Diarbekir, on the Tigris.

3. MESOPOTAMIA.

Mesopotamia* lies between the Euphrates and the Tigris to the south of Kurdistan and has an area of 143,000 sq. miles.

The population numbering $1\frac{1}{3}$ million consists of wandering Arabs.

* The name is derived from two Greek words, *Mesos*, 'middle,' and *potamus*, 'a river,' and means 'the land between two rivers, or *Deab*.'

The *chief towns* of Mesopotamia are :

- (3) Mosul, the capital, situated near the site of the ancient Nineveh. It was once celebrated for its cottons, and gave its name to *muslin*.
 - (2) Bagdad, once the famous capital of the Caliphs.
 - (3) Kerbela, south-west of Bagdad, a sacred place for Shiah Mohamedans.
 - (4) Bussora, the chief port.
-

4. SYRIA AND PALESTINE.

I.—POSITION.

Syria lies between the Euphrates and the Mediterranean, and is bounded on the north by the Taurus Mts. and on the south by Arabia. The country south of Mount Lebanon is Palestine, the Holy Land of the Christians. The total area is about 115,000 sq. miles.

II.—SURFACE.

The country is mountainous. The Lebanon and Anti-Lebanon ranges run parallel to each other in the north.

The *Chief rivers* are :—

- (1) The Orontes, falling into the Mediterranean.
- (2) The Abana.
- (3) The Jordon, falling into the Sea of Galilee or Genesareth.
- (4) The Leontes, flowing into the Mediterranean.

The principal *lakes* are—the Dead Sea, Lake Tiberias, and Lake Merom.

III.—CLIMATE AND PRODUCTS.

The *climate* is dry and hot in summer. There are few *minerals* to be found in the country. But vine, olive, fig, orange, and dates flourish.

IV.—PEOPLE.

The population numbering over $3\frac{1}{2}$ millions, is almost entirely of Semitic stock and chiefly Arab. The number of Jews in Palestine is small.

V.—IMPORTANT TOWNS.

- (1) Damascus, (one of the oldest cities in the world) is a great trade centre.
- (2) Aleppo, north of Damascus.
- (3) Antioch, the former capital.
- (4) Beyrut, the chief port of Syria.
- (5) Alexandratta, the port of Aleppo.
- (6) Jaffa, the chief port of Palestine.
- (7) Jerusalem, the Holy city of Christianity.

5. TURKISH ARABIA.

Turkish Arabia is that portion of Arabia which borders on the Red Sea. It is divided between two Turkish provinces: Hejaz, to the north, and Yemen, to the south. The total area is 170,000 sq. miles, and the population just over one million. The country is partly mountainous and partly consists of sandy and barren plains. The *climate* is intensely hot and dry, but parts of Yemen have a milder climate. The chief *products* are date, coffee, frankincense, myrrh, gum, balsam, maize, wheat, and barley.

The *chief towns* are—

- (1) Mecca, the holy city of Mohamedanism.
 - (2) Jiddah, the port of Mecca.
 - (3) Medina, the burial-place of the prophet Mohamed.
 - (4) Sana, the capital of Yemen.
 - (5) Hodeidah, the chief port of Yemen.
-

Questions.

1. What is the extent of the Turkish dominions in Asia? Name the four principal portions.
2. What is Asia Minor? Describe the character of its surface and name six of the most important towns.
3. What are Armenia and Kurdistan? What sort of countries are they?
4. What is Mesopotamia, and why is it so called? Name some of the most important towns of the country.
5. Name six of the most important towns of Syria and Palestine.
6. What are the following? Mention anything that you know of interest about them :—

Smyrna, Baghdad, Kerbela, Jerusalem, Medina, Aleppo and Damascus.

(K.)—ARABIA.

I.—POSITION AND EXTENT.

Arabia is bounded on the *north* by Asiatic Turkey, on the *east* by the Persian Gulf, on the *south* by the Arabian Sea, and on the *west* by the Red Sea. It is the largest peninsula in the world, covering more than a million sq. miles.

II.—COASTS AND SURFACE.

The surface consists of a vast plateau sloping northwards, with a hilly region in the centre, and surrounded by a narrow belt of sandy lowland. There is no lake or navigable river in the whole country.

The chief *islands* are—Perim, in the Straits of Babelmandeb, and the Bahrein Archipelago, in the Persian Gulf.

The prominent *capess* are—Ras-el-Had, the easternmost point, and Cape Massendum, between the Gulf of Oman and the Persian Gulf.

The Nejd is the inland plateau containing all the tillage, and the Nefud is a large desert of red sand.

III.—CLIMATE.

The climate is intensely hot and dry, Arabia being one of the hottest countries in the world. The desert is swept by a hot poisonous wind called the Simoom, which besides raising clouds of sand, is pestilential. To avoid its deadly effect, men throw themselves flat on the ground, and beasts thrust their noses into the sand, till it has passed over. Rain falls at intervals of several years.

IV.—PEOPLE.

The *population* of Arabia is about six millions. The Arabs belong to the *Semitic* branch of the Caucasian race and are Sunni Mohamedans by religion. A number of them still lead a wandering life and are hence called Bedouin Arabs. The inhabitants of the Nejd are called Wahabis.

V.—IMPORTANT TOWNS.

- (1) Muscat, on the east coast, is the capital of Oman ;
- (2) Riad, capital of the Wahabi State in the Nejd ;
- (3) Aden, a strongly fortified British naval station, east of the Straits of Babelmandeb, near the entrance of the Red Sea.

 Questions.

1. Give the boundaries of Independent Arabia. What other portion of Arabia is there ?
 2. Name and give the position of the principal capes, straits, and islands of Arabia.
 3. What do you know of the climate and inhabitants of Arabia ?
 4. What and where are the following :—
Raid ; Muscat ; Aden ; the Nejd ; the Nefud ; Sinai ; Perim ; Oman ; and Ras-el-Had.
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(L.)—PERSIA.

I.—POSITION AND EXTENT.

Persia* is bounded on the *north* by Asiatic Russia and the Caspian Sea, on the *east* by Afghanistan and Beluchistan, on the *south* by the Persian Gulf, and on the *west* by Turkey in Asia. The *area* is 628,000 sq. miles.

II.—SURFACE.

The interior forms a high plateau surrounded by mountains. The central and eastern portions are deserts; but the north and west are fertile plains.

The Elburz Mountains line the south coast of the Caspian, and the highest peak in Persia is the Demavend, about 18,000 feet high.

The Karun, flowing into the Shat-el-Arab, is the only navigable river in Persia. The chief *lakes* are Urumiya, Niriz, and Haman.

III.—CLIMATE AND PRODUCTS.

The climate is on the whole extreme. The *rainfall* is abundant on the shores of the Caspian, which are hence very fertile. The shores of the Persian Gulf are hot and unhealthy.

Persia is rich in *minerals*, especially iron, lead, coal and copper. Among *vegetable* products may be mentioned silk, cotton, tobacco, sugar, palm oil, and timber. Besides these, Persia produces some excellent *drugs* such as asafoetida, opium, and manna. The wine of Shiraz is considered the best in Asia. The Persians excel in the manufacture of carpets, shawls, and sword-blades.

IV.—PEOPLE.

The *population* is about $9\frac{1}{2}$ millions and is everywhere so scanty as not to exceed, on the average, 15 inhabitants to the square mile.

* Persia is called *Iran* by the Persians themselves.

It is of a mixed character. The majority belong to the ancient Iranian race, which is Aryan, but there are large numbers of Tatars, Arabs, Armenians and Jews. The Persians are distinguished for their polite manners and their artistic tastes, and hence have been called "the French of the east." The prevailing religion is Shiah Mohamedanism.

V.—TRADE AND TOWNS.

1. *Imports*.—Cotton goods, cloth, glass, sugar, petroleum, tea, coffee, drugs.

Exports.—Dried fruits, opium, cotton wool, silk, carpets and pearls.

VI.—GOVERNMENT AND TOWNS.

The *government* may be called a sacerdotal monarchy, the Shah of Persia being a despot, and all laws being based on the Koran. In recent times there has been a movement in favour of a constitutional Government. The standing *army* consists of an ill-disciplined force of 25,000 men.

The *chief towns* are:—

- (1) Teheran, the capital, situated in the north ;
 - (2) Tabriz, in the north-west, the chief commercial city ;
 - (3) Isfahan, south of Teheran, the older capital ;
 - (4) Meshed, capital of the Khorasan province ;
 - (5) Yezd, the home of the Parsis ;
 - (6) Kerman famous for its carpets ;
 - (7) Shiraz, famous for its wine, and for the tombs of the poets Hafiz and Sadi :
 - (8) Barfrush, on the Caspian. (9) Mohammerah, on the Karun, (10) Bandar Abbas (11) Bushire on the Persian Gulf, are the chief seaports.
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Questions.

1. Give the boundaries of Persia.
2. Name (1) the principal mountain chain, (2) the chief river, and (3) the important towns of Persia.
3. Describe the climate and mention the chief products and the chief exports and imports of Persia.
4. What is the form of government prevailing in Persia? Give a short account of the people of the country.
5. What and where are the following :—Demavend, Karun, Niriz, Yezd and Mohammerah?

(M.)—AFGHANISTAN.

I.—POSITION AND EXTENT.

Afghanistan is bounded on the *north* by Russian Turkestan, on the *east* by India, on the *south* by Beluchistan, and on the *west* by Persia.

The *area* is about 250,000 sq. miles.

II.—SURFACE.

Afghanistan consists chiefly of a tableland. The chief *mountains* are—the Hindu Kush, in the north-east; the Koh-i-Baba, Siah koh, and Safed koh, which are continuations of the Hindu Kush range; and the Suleiman Mts., in the east. In the south-west there is a large sandy desert, called Seistan.

The chief *rivers* are :—the Kabul and Kuram rivers, flowing into the Indus; the Helmand, flowing into Lake Haman; and the Hari-rud, flowing into the western sands.

III.—CLIMATE AND PRODUCTS.

The summer is very hot and the winter very cold. Wheat, maize, and rice are the chief food grains. Cotton, sugar and tobacco are also cultivated. Afghanistan is famous for its fruits—grapes, melons, apples and pomegranates. Asafoetide is the chief

drug, which is largely exported. The principal *industries* are the manufacture of silk, carpets, felts, and postins, or sheepskin cloaks.

IV.—PEOPLE.

The *population* is about $4\frac{1}{2}$ millions, and the chief race inhabiting Afghanistan is the Ghilzai, who are Aryans. The Uzbeks are the chief Tartar tribe found in the country. The Afghan *religion* is Sunni Mohamedanism.

V.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, indigo, sugar and tea.
2. *Exports*.—Horses, spices, fruits, nuts and asafoetida.

VI.—MOUNTAIN PASSES.

- (1) The Khyber Pass, leading to India ;
- (2) The Shuturgardan Pass, and the Peiwar Pass, leading down the Kuram Valley to the Indus ;
- (3) The Gomal Pass, communicating with the Punjab ;
- (4) The Khojak Pass, leading to Quetta ;
- (5) Passes over the Hindu Kush leading to Turkistan and Bokhara.

VII.—GOVERNMENT AND TOWNS.

The government of Afghanistan is monarchical, under one hereditary king, who is styled the Amir, and whose power varies with his own character and fortune. The dominions are politically divided into four provinces, each under a governor, under whom nobles dispense justice after a feudal fashion. The Afghan army numbers between 60,000 and 90,000 men including 9,000 cavalry, and 360 guns. In addition to his regular army the Amir's military forces are largely supplemented by local levies of horse and foot.

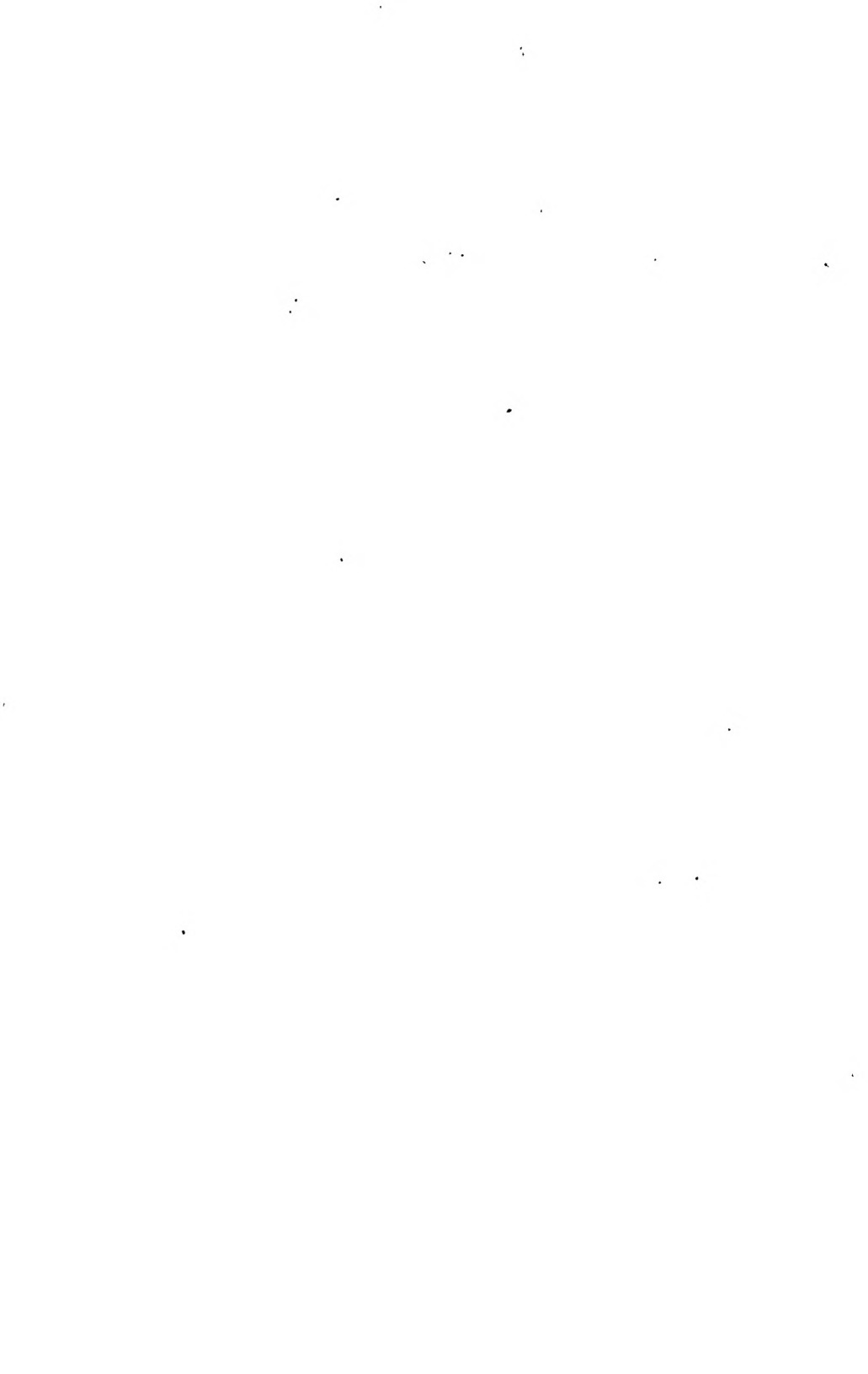
The *chief towns* are :—

- (1) Kabul, the capital, on the Kabul river ;
- (2) Kandhar, the chief fortress in Afghanistan ;
- (3) Herat, near the Persian frontier ;
- (4) Jalalabad, in the east ;
- (5) Ghazni, capital of Mahmud ;
- (6) Balkh, once a splendid city, now in ruins.

Questions.

1. Give the correct geographical position of Afghanistan.
 2. Describe the relief of the country and name the principal rivers.
 3. Describe the climate, and name the characteristic products of Afghanistan.
 4. Write what you know of (1) the people (2) the government, and (3) the trade and industries of Afghanistan.
 5. Name the principal mountain passes running from Afghanistan.
 6. Name six of the chief towns of Afghanistan and write what you know about them.
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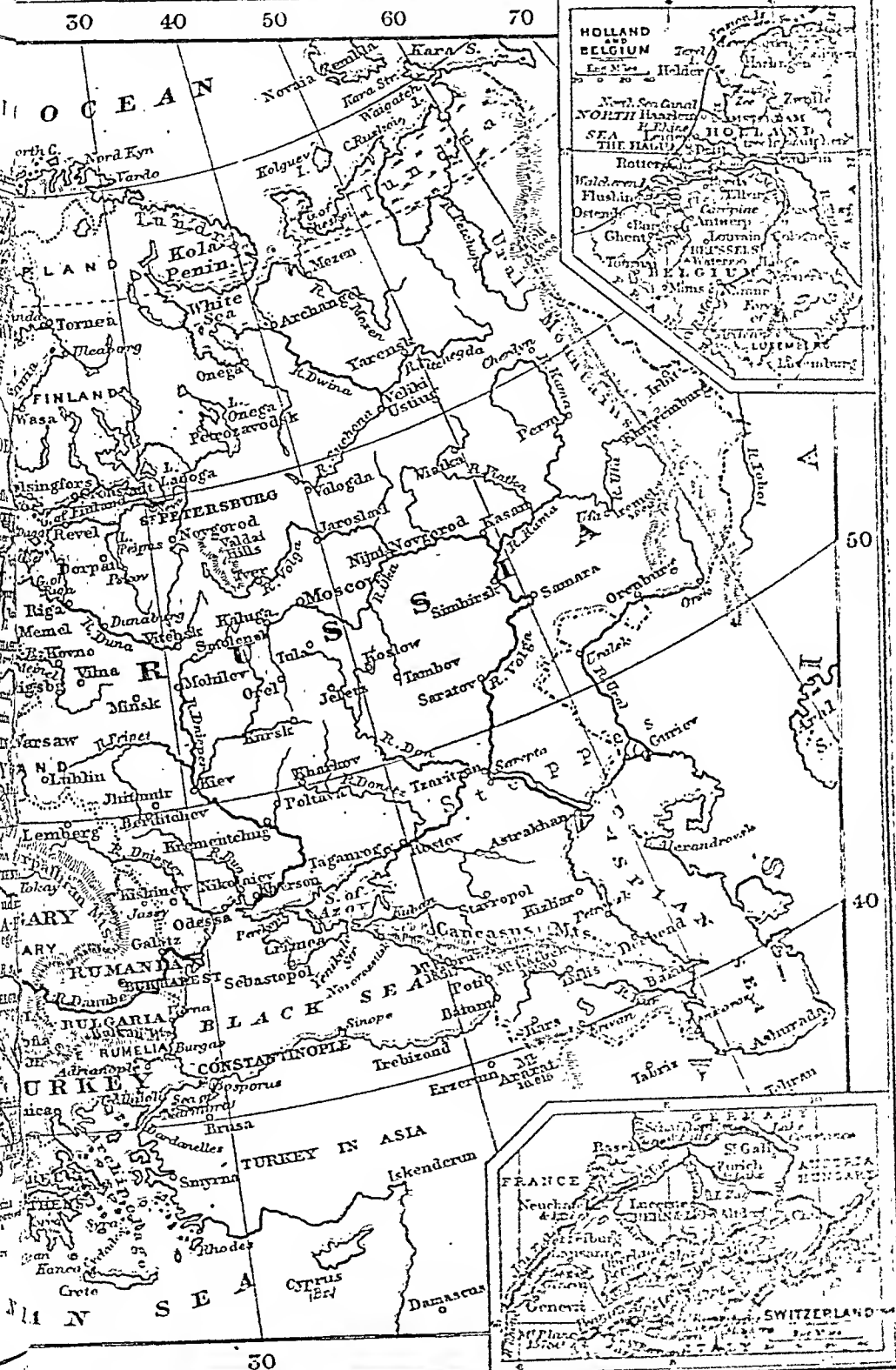
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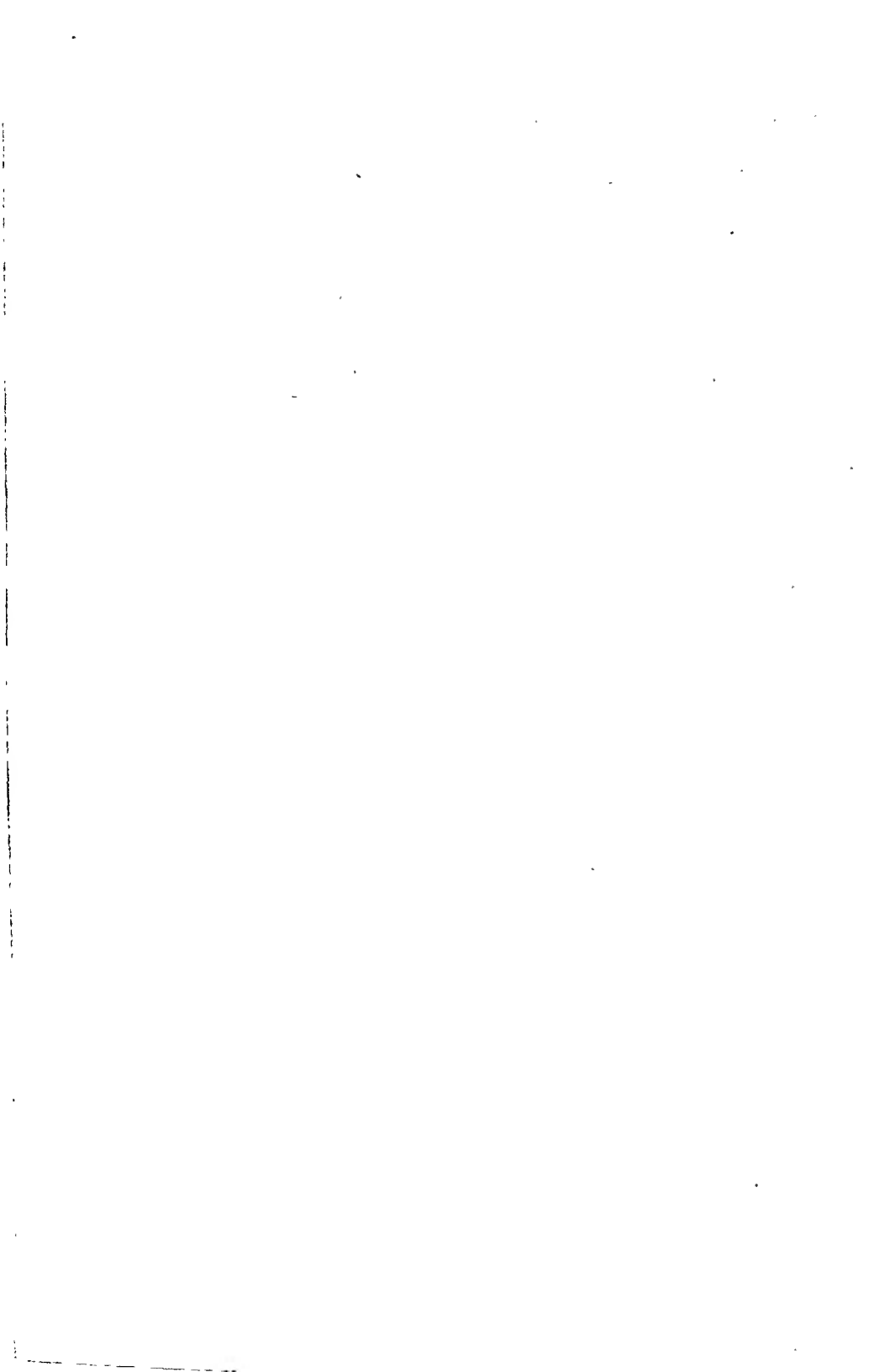




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EUROPE.

I.—GENERAL CHARACTERISTICS.

(1) Europe is the smallest of the continents, except Australia alone.

(2) It excels all other continents in—

(a) the industry, intelligence, and enterprising character of its people ;

(b) the flourishing condition of its arts, sciences, manufactures, and commerce ;

(c) its political influence over the rest of the world.

(3) It has an exceptionally healthy *climate*, and possesses a generally fertile *soil*.

(4) It is more densely populated than any other continent, for with only one-fourteenth of the land-surface of the earth it is the home of nearly a quarter of the human race.

(5) The sea penetrates deeper inland in Europe than in the other continents so that it has a longer *coast-line* relatively to its area.

Points of Comparison between Europe and Asia.

(1) Both have an extensive plain stretching across the north.

(2) In both the chief mountains are in the south and run generally from east to west.

(3) The mountain systems of both start from a central mass—the Himalayas in Asia, and the Alps in Europe.

(4) The western peninsula of both is a plateau, the middle one has an island to the south, and the western one has an archipelago lying off its shores.

(5) An island kingdom, Great Britain, lies to the west of Europe, and a similar one, Japan, to the east of Asia.

(6) The climate of portions of both continents is moderated by a warm ocean current—the Gulf Stream in Europe and the Kuro Siwo in Asia.

II.—BOUNDARIES.

Europe is the western and smaller portion of the great land-mass called Eurasia. It is bounded on the *north* by the Arctic Ocean ; on the *south* by the Mediterranean Sea, the Ægian Sea, the Sea of Marmora, the Black Sea, and the Caucasus Mts. ; on the *east* by the Caspian Sea, the Ural river, and the Ural Mts. ; and on the *west* by the Atlantic Ocean.

The *northernmost* point is Cape Nordkyn in Norway ; the *easternmost* point is the source of the river Kara ; the *southernmost* point is Cape Tarifa in Spain ; the *westernmost* point is Cape Roca in Portugal.

III.—SIZE AND SHAPE.

The greatest length of Europe is about 3,600 miles ; the greatest breadth about 2,400 miles. The total area is about $3\frac{3}{4}$ million sq. miles. In shape it is a triangle.

IV.—COASTS.

Europe has a more broken coast-line than any other continent. All the coasts are broken by river mouths and other openings. The *north* coast lies almost entirely within the Arctic Circle, and is ice-bound during the winter months. The *west* coast is mostly high and rocky.

(1)—SEAS AND GULFS.

(1) The White Sea,* in the North of Russia, is an arm of the Arctic Ocean. Connected with this sea are the Gulfs of Onaga, Archangel, and Kandalak.

* The White Sea is so called from the ice and snow with which it is covered during a great part of the year.

(2) The Baltic Sea * between Russia, Prussia and Sweden, is an arm of the North Sea. It is approached by two channels—the Skager Rack, and the Kattegat.

(3) The North Sea or German Ocean, between Great Britain and the Continent;

(4) The Irish Sea, between England and Ireland;

(5) The Bay of Biscay, west of France and north of Spain, is an arm of the Atlantic;

(6) The Mediterranean Sea, between Europe and Africa;

It is so called because it was believed by the ancients to be situated in the *middle of the earth*. Its eastern part is called the Levant.

Gulf of Lyons, south of France; *Gulf of Genoa*, north-west of Italy; and *Gulf of Toranto*, south-west of Italy, are all inlets of the Mediterranean.

(7) The Adriatic Sea, between Italy and Turkey, is an arm of the Mediterranean;

(8) The Ægæan Sea, between Greece and Asiatic Turkey, is a part of the Mediterranean;

(9) The Sea of Marmora, † between Turkey and Asia Minor;

(10) The Black Sea ‡ (with the Sea of Azov) south of Russia.

(2)—STRAITS.

(1) The Sound, forming the chief entrance to the Baltic and separating the island of Zealand from Sweden;

* The Baltic Sea is supposed to derive its name from the Belts by which it is entered.

† So called because of the famous marble (*marmor*) island it contains.

‡ The Black sea is so called because of the dense fogs that prevail there in winter.

[The Great Belt and the Little Belt are smaller entrances into the Baltic.]

(2) The Straits of Dover, connecting the North Sea with the English Channel and separating England from France ;

(3) The Straits of Gibralter, joining the Mediterranean to the Atlantic and separating Europe from Africa ;

(4) The Dardenelles (or *Hellespont*), connecting the Ægean Sea with the Sea of Marmora and separating European from Asiatic Turkey ;

(5) The Bosphorus (or the *Straits of Constantinople*) connecting the Sea of Marmora with the Black Sea, and separating Europe from Asia ;

(6) The North Channel, leading north, and St. George's Channel leading south, from the Irish Sea ;

(7) The Strait of Bonifacio, connecting two parts of the Mediterranean and separating Sardinia from Corsica ;

(8) The Strait of Otranto, connecting the Ionian and Adriatic seas, and separating S. Italy from Albania ;

(9) The Strait of Yenikale, joining the Sea of Azov with the Black Sea, and separating the Crimea from the Caucasus ;

(10) The Strait of Messina, connecting two parts of the Mediterranean, and separating Italy from Sicily.

(3)—ISLANDS.

(1) *In the Arctic Ocean—*

Spitzbergen and Nova Zembla.

Also—Waygatz, Kolguev and Lofoden.

(2) *In the Atlantic Ocean—*

Iceland, Faroe, Shetland, Orkneys, Hebrides, Great Britain and Ireland, Anglesea, Isle of Man, Isle of Wight, and the Azores.

(3) *In the North Sea—*

Heligoland.

(4) *In the Baltic Sea—*

Zealand, Funen, Bornholm, Laaland, Oland, Gothland,
and Aland.

(5) *In the Mediterranean Sea—*

The Balearic Isles (consisting of

Majorca, Minorca, Ivica, &c.) East of Spain.

Corsica, Sardinia, and Elba ... West of Italy.

Sicily, Lipari, Malta, and Gozo South of Italy.

The Ionian Isles ... West of Greece.

Candia or Crete ... S. E. of Greece.

The Cyclades and Negropont (or

Eubœa) ... East of Greece.

(4)—PENINSULAS AND ISTHMUSES.

(1) Scandinavia ... Consisting of Norway and Sweden.

(2) The Iberian Peninsula ,, Spain and Portugal.

(3) Jutland ... North of Denmark.

(4) The Crimea ... South of Russia.

(5) Italy ... South of Europe.

(6) Greece ... South of Europe.

(7) The Morea ... in the South of Greece.

Only two of the European Isthmuses have special names—

(1) *Isthmus of Corinth*, connecting the Morea with Northern Greece ;

(2) *Isthmus of Perckop*, connecting the Crimea with the mainland.

[The Great Belt and the Little Belt are smaller entrances into the Baltic.]

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V.—RELIEF.

The land surface of Europe consists of three parts :—

- (1) The Great European Plain, embracing all Russia and extending through Northern Germany to France ;
- (2) The Mountain System of the Alps ;
- (3) Scandinavia—the great mountainous peninsula of the north.

The greater part of the continent is less than 600 feet above sea level, and in this respect its relief is in marked contrast with that of Asia, most of whose surface is above 600 feet in elevation.

(1)—MOUNTAINS.

(1) The Scandinavian Mountains stretch south from the Arctic Ocean to the Skager-rack.—Highest peak, *Galdhoppig*, 8,500 feet.

(2) The Ural Mountains, between Europe and Asia,—Highest peak, *Toll Poss*, 5,500 feet.

(3) The Caucasus Mountains, stretching west from the Caspian to the Black Sea,—Highest peak, *Elburz*, 18,500, feet.

(4) The Carpathian Range in Austria,—Highest peak, *Bucseco*.

(5) The Appenines, running down the centre of Italy—Highest peak, *Gransasso*.

(6) The Alps, in France, Italy, Switzerland, and Austria, Highest peaks, *Mont Blanc* and *Monte Rosa*, 15,784. feet.

(7) The Pyrennees, between France and Spain,—Highest peak, *Pic Nethou* 11,400 feet.

(8) The Balkans, in Bulgaria,—Highest peak, *Tchar Dag*h, 10,000 feet.

Volcanoes.

- (1) Vesuvius, on the west coast of Italy ;
- (2) Etna, on the east coast of Sicily ;
- (3) Stromboli, north of Sicily ;
- (4) Hekla, in Iceland.

(2)--PLATEAUX.

- (1) The Tableland of Castile, in Spain, with a general elevation of 2,700 feet ;
- (2) The Plateau of Auvergne, in France, with an average height of 1,100 feet ;
- (3) The Bavarian Plateau, on the north side of the Alps, with an elevation of 1,500 to 1,600 feet ;
- (4) The Tableland of Bohemia, with an elevation of 900 feet ;
- (5) The Transylvanian Tableland.

(3)--PLAINS.

- (1) The Plain of Lombardy, in northern Italy ;
- (2) The Plain of Hungary ;
- (3) The Walachian Plain ;
- (4) The Plain of Bohemia, watered by the upper Elbe ;
- (5) The Plain of Languedoc, in the south of France ;
- (6) The Plain of Andalusia, in the south of Spain ;
- (7) The great Central Plain of Ireland.

VI.—RIVERS

(1) *On the North-west slope--*

<i>Name.</i>	<i>Rising from.</i>	<i>Flowing through.</i>	<i>Falling into.</i>
The Petchora	Ural Mts.	Russia	Arctic Ocean
The Dwina	N. E. of Russia	"	White Sea.
The Duna	Valdai Hills	"	G. of Riga.
The Yistula and Oder.	Carpathian Mts.	Russia and Prussia,	Baltic Sea,

<i>Name.</i>	<i>Rising from.</i>	<i>Flowing through.</i>	<i>Falling into.</i>
The Elbe	Bohemian Mts.	Austria and Germany	North Sea
The Rhine	L. Constance	Switzerland, Germany and Holland.	North Sea
The Thames	Cotswold Hills	England	Do.
The Seine	N. E. France	France	English Channel.
The Loire	Cevennes Mts.	Do.	Bay of Biscay
The Garonne	The Pyrennees	Do.	Do.
The Douro,	Castilian Mts.	Spain and Portugal,	Atlantic Ocean
the Tagus, the			
Guadiana,			
The Guadal-	Sierra Nevada	Do.	Do.
quiver.			
(2) <i>On the South-east slope—</i>			
The Ebro	Cantabrian Mts.	Spain	Mediterranean
The Rhone	The Alps	Switzerland and France.	Do.
The Po	Do.	Italy	Adriatic.
The Danube	Black Forest	Germany, Austria, and Roumania	Black Sea
The Dniester	Carpathian Mts.	Austria and Russia	Do.
The Dnieper	S. W. of Russia	Russia	Do
The Don	Interior of Russia	Do.	Sea of Azov
The Volga	Valdai Hills	Do.	Caspian Sea
The Ural	Ural Mts.	Do.	Do.

N. B.—The lengths of the rivers are :—*Volga*, 2,000 ; *Danube*, 1,700 ; *Dnieper*, 1,100 ; *Don*, 1,000.

The rivers of Europe have a north-west and south-east direction, the former flowing into the Atlantic and Arctic Oceans the latter into the Mediterranean, Black, and Caspian Seas. They are all well adapted for commerce.

VI.—LAKES.

The largest lakes of Europe are found in the region of the Baltic. In Finland they are so numerous that this province is regarded as the Lake Region of Europe.

(a) *Highland Lakes*—

Geneva or Leman, Constance,
Neufchatal, Lucerene, Lugano and Zurich, ... in Switzerland;
Maggiore, Como, and Garda, in Italy.

(b) *Lowland Lakes*—

Ladoga and Onega ... in Russia;
Wener and Wetter ... in Sweden.

VIII.—CLIMATE.

Europe, lying almost wholly within the N. Temperate Zone, enjoys a temperate climate, which is still further modified and ameliorated by the following circumstances :—

- (1) the influence of the Atlantic Ocean and the Gulf Stream;
- (2) the indentation of the coast by arms of the sea;
- (3) the absence of high mountains on the coast, so that the rain-bearing winds from the Atlantic blow freely, and these are warm in winter, and cool in summer;
- (4) the direction of the mountain ranges from east to west which protects the greater portion of the continent from the cold north winds.

Rainfall.—Over most of Europe rain falls at every time of the year: there is no special rainy season. The west of Europe

is noted for *autumn* rains ; the centre and east for *summer* rains ; and the south for *autumn* and *winter* rains. The rainfall decreases from west to east.

IX.—PEOPLE.

1. **The Population of Europe.**—The population of Europe is estimated at about 400 millions. But the density or the rate of population per square mile is greater than in any other continent.

This rate varies from 16 to 725 inhabitants per sq. mile of area.

N. B.—In *Saxony* it is 725 ; in *England*, 498 ; in *France*, 118 ; in *Russia*, 45 ; in *Norway*, 16.

2. **The chief Races of Europe.**—The inhabitants of Europe belong to the *Caucasian* stock, and are distributed in equal proportions among the three following races :—

- (1) the Teutonic, comprising the English, the Dutch, the Scandinavians, and Germans ;
- (2) the Romanic comprising the French, the Italians, the Spanish, the Portuguese, and Rumanians ;
- (3) the Slav, comprising the Russians, Poles, Servians, Bulgarians, the Czechs of Bohemia, and the Wends of Germany.

3. **The chief Religions of Europe.**—The chief religion of Europe is Christianity, but about 6 million Mohamedans live in Turkey, and another 6 million Jews are scattered all over the continent.

X.—PRODUCTS AND INDUSTRIES.

1. Minerals —

Nearly all the larger countries have abundant supplies of coal, iron, copper, lead, and salt.

- (1) Gold is found in the Ural Mts. and Austria.
- (2) Mercury is obtained in Spain and Austria.
- (3) Tin is found in Great Britain.
- (4) Zinc in Belgium and Germany.
- (5) Sulphur in Italy.

2. Vegetables—

- (1) Wheat—Russia and France.
- (2) Potato—Ireland.
- (3) Flax—Russia.
- (4) Timber—Russia, Sweden, Norway, and Austro-Hungary.
- (5) Wine—France, Spain, Germany, Scotland.

3. Manufactures —

The chief manufacturing countries are—England, France, Germany, Belgium, Holland and Switzerland

XI.—TRADE AND COMMERCE.

The foreign trade of Europe chiefly consists in the *import* of foodstuffs and the raw material of manufactures, and in the *export* of manufactured articles.

XII.—POLITICAL DIVISIONS.

Europe is divided into 23 independent states, that are classed into three groups according to their moral and political influence:—

Class I.—Great Britain, France, Germany, Russia, Austria—commonly called “the five great powers.”

Class II.—Italy, Belgium, Holland, Norway and Sweden, Turkey, Spain.

Class III.—Denmark, Portugal, Switzerland and Greece.

These, with their areas, populations, and capitals are given in the following table :—

Name.	Area in square miles.	Population in millions.	Government.	Capital.
United Kingdom	121,000	41·9	Limited monarchy.	London.
Sweden ...	173,000	5·1	Do	Stockholm.
Norway ...	124,500	2·2	Limited monarchy.	Christiana.
Denmark ...	15,200	2·4	Do.	Copenhagen.
Holland ...	12,500	5·5	Do.	Amsterdam.
Belgium ...	11,500	6·5	Do.	Brussels.
France ...	204,000	39	Republic ...	Paris.
Switzerland ...	16,000	3·3	Federal Republic.	Bern.
Germany ...	209,000	56·5	Limited monarchy.	Berlin.
Austria ...	116,000	24	Do.	Vienna.
Hungary ...	125,000	17	Do.	Budapest.
Rumania ...	50,000	5·9	Do.	Bukarest.
Bulgaria ...	38,000	3·7	Principality ...	Sofia.
Servia ...	18,500	2·4	Limited monarchy.	Belgrade.
Montenegro ...	3,600	1·25	Principality ...	Cettinge.
Turkey ...	65,500	6·1	Absolute monarchy till 1908, when a Constitution was granted.	Constantinople.

Name.	Area in square miles.	Population in millions	Government.	Capital.
Greece ...	25,000	2.4	Limited monarchy	Athens.
Spain ...	200,000	18.6	Do.	Madrid.
Portugal ...	36,000	5.4	Republic ...	Lisbon.
Italy ...	110,500	32.4	L. monarchy ...	Rome.
Russia ...	2,095,000	107.4	Absolute monarchy.	St. Petersburg.

Questions.

1. Draw a comparison between the geographical features of Europe and Asia. In what respects is Europe unique among the continents?
2. Describe the character of the coast-line and the surface of Europe.
3. Point out the position of the principal peninsulas of Europe, and name the capes in which they end. What peninsulas run north?
4. What countries in Europe are washed by the Baltic Sea? Name the straits that connect it with the North Sea.
5. Name the islands of Europe that lie in the Mediterranean Sea.
6. Name the four longest rivers of Europe. Which of the European rivers rise in the Alps, and which fall into the Mediterranean?
7. Into what two classes have the lakes of Europe been divided? Name the chief highland lakes of Europe. What country is called the Lake Region of Europe?
8. Enumerate the circumstances that make the climate of Europe mild in comparison with its position in the N. Temperate Zone.
9. Name the chief races of man that inhabit Europe. What is the total population, and in what part is the population densest?
10. Name the chief manufacturing countries of Europe, and the principal mineral and vegetable products.
11. What is the general character of European trade with the rest of the world?
12. Classify the states of Europe into three groups according to their moral and political influence.



BRITISH ISLES

RAILWAY MAP

Scale of English Miles.
0 10 20 30 40 50

Reference to Railways

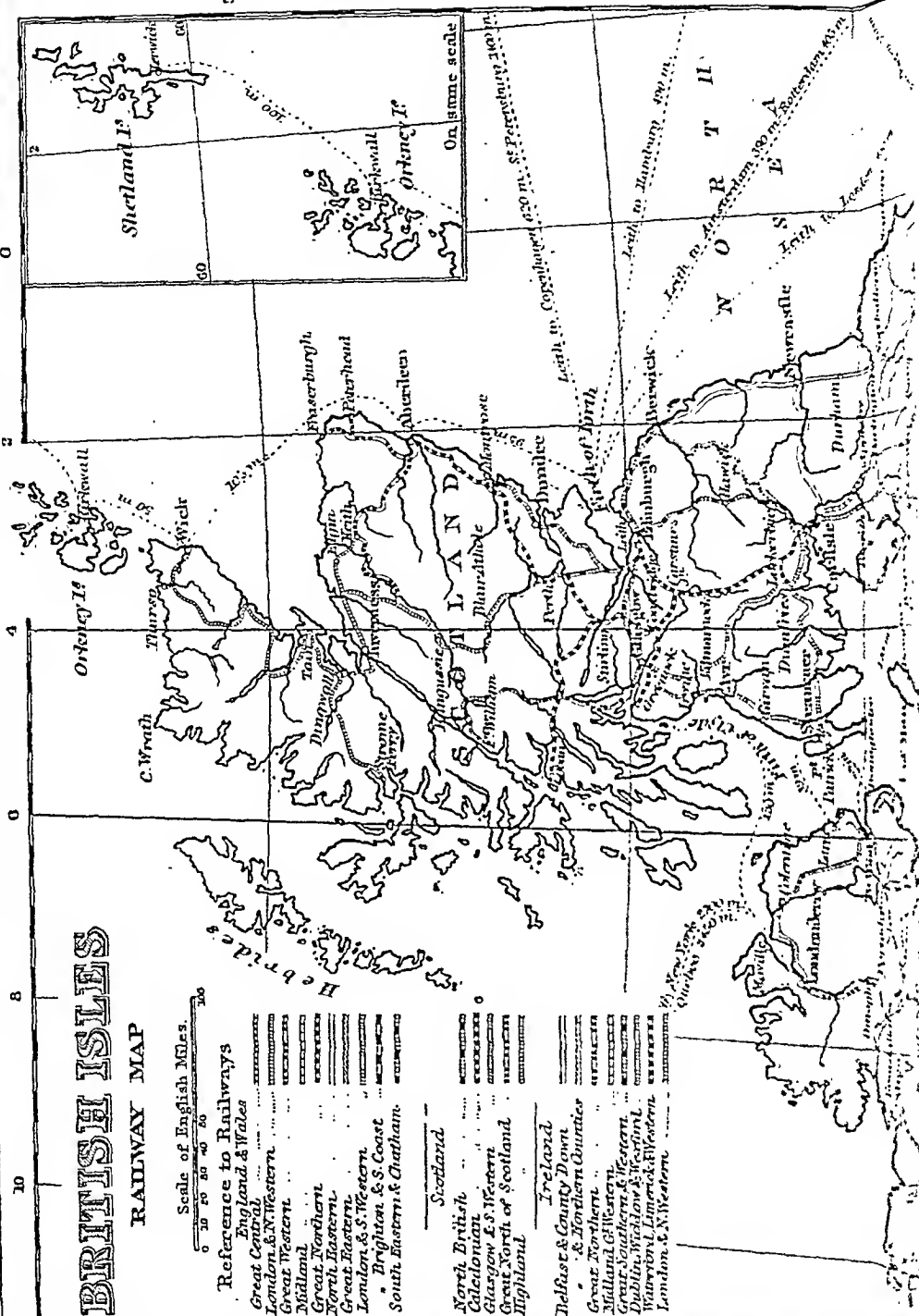
- England & Wales*
Great Central
London & N. Western
Great Western
Midland
Great Northern
Great Eastern
Great Eastern
London & S. Western
Brighton & S. Coast
South Eastern & Chatham

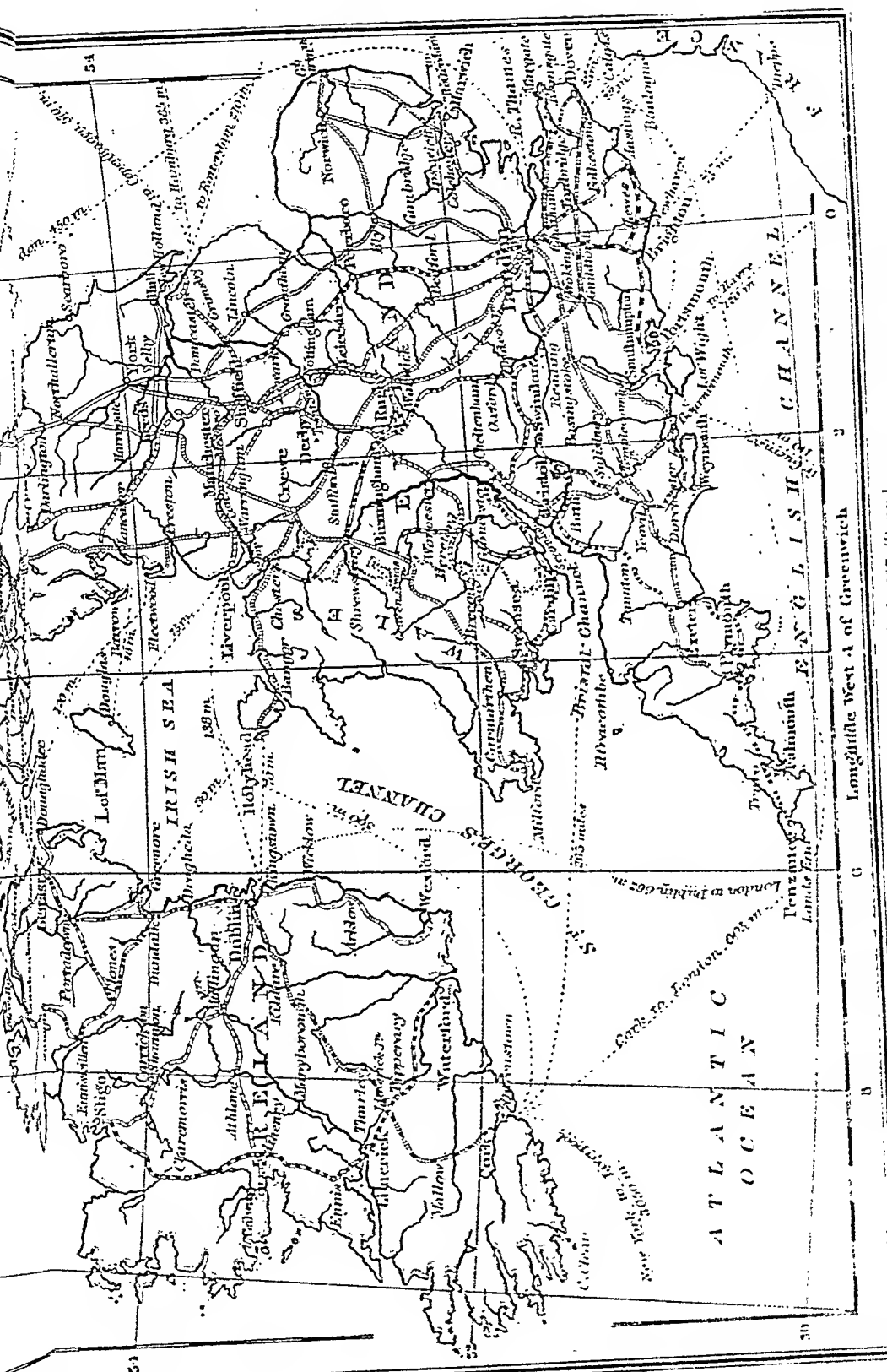
Scotland

- North British*
Caledonian
Glasgow E. & Western
Great North of Scotland
Highland

Ireland

- Dublin & County Down*
& Northern Counties
Great Northern
Midland of Western
Great Southern & Western
Dublin, Wicklow & Wexford
Waterford, Wexford & Western
London & S. Western





This commercial supremacy is chiefly due to (1) the great mechanical inventions of the last two centuries ; and (2) the vast extent of its foreign possessions.

4. **Government.**—The *Government of the United Kingdom* vests in—

- (1) The Sovereign, whose office is hereditary ;
- (2) The House of Lords, consisting of hereditary peers ;
- (3) The House of Commons, consisting of representatives of the people.

No law can be made without the consent of these three estates. The executive Government of the country is carried on by the *Cabinet* which consists of the chief ministers of state headed by a Prime Minister or *Premier*.

5. **Advantages of the Geographical Position of the British Isles.**—The British Isles are geographically very fortunate, and this accounts for the greatness of the British Empire. These geographical features are :—

- (1) Its climate is one of the healthiest in the world.
- (2) Its rivers are slow and navigable and therefore well suited for commerce.
- (3) The lowlands have a fertile soil and the highlands provide excellent pasture.
- (4) Great Britain is specially rich in mineral products.
- (5) No part of the country is far from the sea.
- (6) The British Isles are situated near the centre of the land hemisphere, so that they are within reach of the great markets of the world.

(7) The insular position of Britain, besides facilitating commerce, also tends to prevent invasion, and allow industrial pursuits to be carried on with safety. It also helps to make the people a maritime and therefore a progressive race.

6. **Extent of the British Empire.**—The British Empire, which is scattered over every part of the world, has a total area of about 12 million square miles, or more than one-fifth of the total land surface of the globe. The population is nearly 400 millions, or more than one-fourth of the total population of the globe. Hence the well-known saying, “the sun never sets over the British Empire.”

The British Empire consists of—

(1) *In Europe*—

The United Kingdom, Gibraltar, Malta and Gozo.

(2) *In Asia*—

India, Ceylon, the Straits Settlements, Hong Kong, Cyprus, and the Malay Protected States.

(3) *In Africa*—

The South African Colonies, the West African Colonies, Mauritius, St. Helena, Basutoland, Bechuanaland, British Central Africa, British East Africa, British South Africa.

(4) *In Australasia*—

The Australian colonies, Tasmania, New Zealand, the Fiji Islands, British New Guinea, British North Borneo, Brunei, Sarawak, and various island groups in the Pacific Ocean.

(5) *In America—*

Canada, Newfoundland, Labrador, Bermuda, the West Indies, Honduras, British Guiana and the Falkland Islands.

1. ENGLAND AND WALES.

I.—POSITION AND EXTENT.

England and Wales are bounded on the *north* by Scotland, on the *east* by the North Sea, on the *south* by the English Channel, and on the *west* by the Atlantic Ocean, St. George's Channel, and the Irish Sea. The *area* is 58,000 sq. miles; *length*, 420 miles, and *breadth*, 360 miles. The coast-line is 1800 miles. It is situated between 50° and 56° N. latitude, and between 1° 50' E. and 5° 45' W. longitude.

II.—SEAS AND GULFS.

On the East.—Tees Bay, the Humber, the Wash, and the Estuary of the Thames;

On the South.—Portsmouth Harbour, Southampton Water, Plymouth Sound, Falmouth Harbour and Mount's Bay;

On the West.—Bristol Channel, Milford Haven, St. Bride's Bay, Cardigan Bay, Carnarvon Bay, Morecambe Bay and Solway Firth.

III.—STRAITS AND CHANNELS.

(1) The Straits of Dover, between England and France;

(2) Menai Strait, separating the island of Anglesey from Carnarvonshire, now crossed over by a suspension bridge and a railway bridge;

(3) The Solent, between the west coast of the Isle of Wight and Hampshire;

(4) Spithead, a narrow channel between the north-east coast and the Hampshire mainland, is the rendezvous of the British navy ;

(5) The Downs, a narrow strip of water between the North and South Forelands. Near it are the Goodwin Sands, a famous line of shifting sandbanks about six miles from the coast of Kent.

(6) Yarmouth Roads, between the Norfolk coast and a neighbouring line of sandbanks.

(7) The Bristol Channel, a great arm of the Atlantic separating S. Wales from Somerset and Devon.

(8) Milford Haven, west of Pembrokeshire, said to be the finest harbour in the world.

(9) Mount's Bay, south-west of Cornwall.

IV.—ISLANDS.

- | | | |
|--------------|---|---|
| West Coast. | { | <p>(1) Walney, S. W. of Furness in Lancashire,</p> <p>(2) Isle of Man, in the Irish Sea,</p> <p>(3) Anglesey, in Wales, (called 'Mona' by the Romans),</p> <p>(4) Lundy, in the mouth of the Bristol Channel ;</p> <p>(5) The Scilly Isles, in the Atlantic, 30 miles S. W. of Land's End. The largest island of the group is St. Mary's.</p> |
| South Coast. | { | <p>(6) The Isle Wight, three miles from the Hampshire Coast. It is famous for its mild climate and picturesque scenery and is hence called the 'Garden of England'. The chief towns are Newport (the capital) close to which is Carisbrook Castle, where Charles I. was imprisoned ; Ryde, Shanklin, Yarmouth, and Cowes, near to which is Osborne, the marine residence of the royal family.</p> <p>(7) Channel Islands, comprising Jersey, Guernsey, Alderney and Sark. These islands are all that remain of the French possessions of the English.</p> |

- East Coast.* { (8) Sheppey, in the mouth of the Thames, with its chief towns Sheerness and Queensborough.
 (9) Landisfarne or Holy Island.
 (10) Farne Islands and Coquet Isle, very small islands lying off the coast of Northumberland.

V.—CAPES.

- East Coast.* { 1. Flamborough Head, in Yorkshire,
 2. Spurn Head, in Yorkshire,
 3. Lowestoft Ness, Suffolk,
 4. The Naze, in Essex
 5. North Foreland, in Kent.
- South Coast.* { 6. South Foreland, and Dungeness, in Kent.
 7. Beachy Head, and Selsea Bill, in Sussex.
 8. St. Catherine's Point and the Needles, in the Isle of Wight.
 9. St. Alban's Head and Portland Bill, in Dorset,
 10. Start Point, in Devon.
 11. The Lizard, in Cornwall.
- West Coast.* { 12. Land's End, in Cornwall,
 13. Hartland Point, in N. Devon,
 14. Worms Head, in Glamorgan,
 15. St. David's Head, in Pembroke,
 16. St. Bees Head, in Cumberland.

VI.—MOUNTAINS.

England is mountainous in the north and west, hilly in the south, and undulating or level in the centre and east. The *chief mountains* are :—

- (1) The Cheviot Hills, between England and Scotland ;
- (2) The Pennine Chain, in the centre of Northern England—Highest Peak *Cross Fell*,=nearly 3,000 feet :

(3) The Cumbrian Group, in the north-west of England,—Highest Peak, *Scaw Fell*, the highest in England, 3208 feet. The other peaks of this range are—*Helvellyn*, *Skiddaw*, and *Saddle-back*.

(4) The Welsh or Cambrian Mountains, in Wales,—Highest Peak, *Snowdon*, 3570 feet.

(5) The Devonian Range, extending eastward from Cornwall ;

(6) The Cotswold Hills, to the east of the Severn ; (7) the Mendip Hills, east of the Bristol Channel : (8) the Chiltern Hills, north-east of the Thames ; (9) the North Downs and the South Downs, south of the Thames.

N. B.—Of these the Chiltern Hills, the North Downs, and the South Downs are *chalk cliffs*.

VII.--PLAINS.

(1) The Plain of York (also called the " Vale of York ") watered by the Ouse and its tributaries, the most extensive plain in England ;

(2) The Central Plain, watered by the Trent ;

(3) The Cheshire or Western Plain, watered by the Ribble, the Mersey, and the Dee ;

N. B.—These three plains are connected, and may be regarded as one.

(4) The great Eastern Plain, extending from the Wash to the Thames ;

(5) Salisbury Plain, in Wiltshire, containing the Druidical remains of Stonehenge.

VIII.—RIVERS.

(1) The Thames, rising in the Cotswold Hills, and falling into the North Sea. It is 215 miles long, the longest in England and Wales, and drains a basin of 6,000 square miles. Its waters wash

the counties of Oxford, Buckingham, Middlesex, and Essex on the north side, and of Wilts, Berks, Surrey, and Kent on the south.

The *tributaries of the Thames* are:—the *Cherwell*, *Thames*, *Colne*, and *Lear*,—on the left bank or north side; and the *Kennel*, *Wey*, *Mole*, and *Medway*,—on the right bank or south side.

The Thames passes the towns of Oxford, Reading, Windsor, Richmond, London, Woolwich, and Gravesend. At the mouth of the river on the south side, stands Sheerness, noted for its naval dockyards and fortifications. Vessels of 1,400 tons can ascend the river as far as 60 miles from the open sea. “From its geographical position as the centre of European seas, and, indeed, of all the highways of navigation in the world, the Thames has become not only the most important river of Europe, but of the whole world, trading as it does with every land, and bearing on its ample bosom the merchandise of all nations.”

(2) The Mersey, on the west coast, rising in the Pennine Range and falling into the Irish Sea. It is 70 miles long and drains a basin of 1700 square miles. Being situated in the centre of England it carries on a vast import and export trade. Liverpool, the second city of England, is situated on the Mersey.

(3) The Humber, which is formed by the union of the Trent and the Ouse, drains a basin of 9,500 square miles. Hull, on the Humber, is the great seaport of the north-east. The most important affluents of the Humber are the Ouse, which drains the plain of Yorkshire, and the Trent, which rising in the Staffordshire moors, drains the great Central plain of England.

(4) The Tyne, (73 miles long) rises in the Pennine moors, and flows east between Northumberland and Durham, passing on its way the towns of Newcastle, Gateshead, North and South Shields.

(5) The Severn, rises in a small lake on the east of Plinlimon and after passing the towns of Shrewsbury, Worcester, and Gloucester, falls into the Bristol Channel. Its principal tributaries are the Wye, the Teme, the Usk, and the Lower Avon.

(6) The Great Ouse, or Bedford Ouse (to distinguish from the Yorkshire or Northern Ouse), rises in Northamptonshire and after an irregular and northerly course of 156 miles, and passing through Bedford, Huntingdon, Cambridge, and Norfolk, falls into the Wash.

The following are some of the less important rivers of England:—

On the East coast, flowing into the North Sea—

(1) The Wear, the Tees, between the Tyne and the Humber

(2) The Witham, Welland, Nen, Cam, Lark,—tributaries of the Bedford Ouse;

(3) The Yare, Waveney, Orwell, Stour, Colne, Chelmer, between the Humber and the Thames;

On the South coast, flowing into the English Channel—

The Sussex Ouse, Arun, Itchen, Test, Avon, Frome, Exe, Dart, Tamar, and Fal.

On the West coast—

(1) The Eden, and Derwent, flowing into the Solway Firth

(2) The Lune, Ribble, Dee, Clwyd, Conway, flowing into the Irish Sea;

(3) The Teify, flowing into Cardigan Bay;

(4) The Towy, Tawe, and Taff, flowing into the Bristol Channel on the Welsh side;

(5) The Parret, Taw, and Torridge, flowing into the Bristol Channel, on the Devon side.

IX.—LAKES.

(1) Windermere, the *largest*, in Lancashire and Westmoreland ;

(2) The Ulleswater, in Cumberland and Westmoreland, the *grandest* of the English lakes ;

(3) The Derwentwater, or Keswick Lake, in Cumberland, the *most beautiful* of the English lakes ;

(4) Lake Bala or Pimblemere, in North Wales, the largest of the Welsh lakes.

(5) Llanberis, at the base of Mount Snowdon.

The Cumberland lakes are celebrated for their beautiful scenery. The whole area of the lakes is called the 'Lake District.'

X.—CLIMATE AND SOIL.

The climate of England is one of the healthiest in the world. This is due to the following causes :—

- (1) the geographical situation ;
- (2) the insular position of England ;
- (3) the proximity of the Gulf Stream ;
- (4) the prevailing winds, which are south-westerly and easterly ;
- (5) its moderate elevation above the sea-level.

All extremes, therefore, of heat and cold are unknown in England.

The rainfall is greater in the west than in the east, and this makes the rivers of that part navigable, and renders the land well suited for pasture.

The *soil* is very fertile. About one-third is under tillage, and one-half in pasture. England at one time contained a large portion

of *forest land*, but this has now been to a great extent cleared. Among forests still existing are :—

- (1) New Forest (92,000 acres) in Hampshire, originally formed by William the Conqueror ;
- (2) Dean Forest (22,000 acres), in Gloucestershire ;
- (3) Windsor Forest (4,000 acres) in Berkshire ;
- (4) Sherwood Forest, in Nottinghamshire, was the scene of Robin Hood's exploits.
- (5) Epping Forest, (5,000 acres), in Essex..

XI.—PRODUCTS AND INDUSTRIES.

For her *vegetable productions* England is largely indebted to foreign countries. It is to her *mineral productions*—especially to her inexhaustible stores of coal and iron—that England owes most of her wealth and much of her greatness.

The chief minerals are found in the places noted against their names :—

Gold—Wales and Cornwall.

Silver and Lead—Northumberland, Cumberland, Durham, Derby, Devonshire, &c.

Iron and Coal—North England, Wales and Midland counties.

Copper—Cornwall, Devon and Anglesey.

Tin—Cornwall and Devon.

Zinc—Derby, North Wales, Somerset.

The chief *manufactures* are those of cotton, iron, wool, silk, linen, leather, soap, earthenware and glass.

XII.—TRADE AND COMMERCE.

1. *Imports*.—Grain, cotton, wool, sugar, gold and silver, timber, silk, tea, butter, coffee, flax wine and tobacco—*total value* over £ 624, 000,000.

2. *Exports*.—Cotton and woollen goods, metals, machinery, cutlery, coal, linen manufactures, haberdashery, leather articles and earthenware,—*total value* over £ 378,000,000.

XIII.—MEANS OF COMMUNICATION.

Internal communication is maintained by—

- (1) 120,000 miles of roads ;
- (2) 4,673 miles of canals ;
- (3) 1,800 miles of navigable rivers ;
- (4) 22,847 miles of railways ;
- (4) 1,046,000 miles of telegraph and telephone wires.

XIV.—THE ARMY AND NAVY.

In 1909 the strength of the British Army, at home and abroad, including all ranks, was 805,173 men, of whom 679,619 were effectives.

The British Navy in March 1910 consisted of 533 vessels, including battleships, torpedo boats, armoured cruisers, destroyers, submarines, etc. The number of men in the naval service, including all ranks, was 138,000 in 1910.

XV.—REVENUE AND EXPENDITURE.

The revenue from all sources amounted in the year 1909 to £ 151,578,295, and the expenditure in the same year amounted to £ 152,292,395.

XVI.—IMPORTANT TOWNS.

The important towns of England and Wales may be arranged under the following heads :—

I.—River towns.—

(1) Newcastle-on-Tyne, (so called from a castle built there by Robert, Duke of Normandy) is the chief centre of the coal trade ; hence the town has been called ‘ the metropolis of coal.’

(2) Durham, on the Wear, has famous collieries and iron mines.

(3) Hull, at the confluence of the Hull with the Humber, is famous for its shipbuilding yards, oil mills, chemical and machine works. It is the third commercial port of England.

(4) Leeds, in Yorkshire, has large and varied industries, but is specially noted for its woollen manufactures. Bedford, west of Leeds, is the centre of the worsted trade, and Halifax, on the Aire, is noted for carpets.

(5) Lincoln, on the Witham, is a great centre of farm produce, and its chief industry is the manufacture of farm implements.

(6) Norwich, in Norfolk, manufactures crape, muslin etc.

(7) Chatham, in Kent, has a naval dockyard and arsenal. Dover, has a strongly fortified castle.

(8) Southampton, on the Itchen, has a great trade with the Mediterranean and the East. Portsmouth has a great arsenal and immense naval dockyards, and is one of the most strongly fortified places in the world.

(9) Plymouth, in Devon, has sugar refineries, shipbuilding, and a large coasting trade. Devonport has a great naval dockyard and arsenal.

(10) Liverpool, on the Mersey, is the second city in England, and is famous for its miles of docks.

(11) Manchester, on the Irwell, is the great centre of the cotton trade and is hence called the 'metropolis of cotton,' and its merchants 'cotton lords.'

(12) Chester, on the Dee, is famous for its Roman antiquities and historical associations.

(13) Leicester, on the Soar, has large manufactures of hosiery, lace, shoes, and farming implements.

(14) Sheffield, on the Don, is famous for its cutlery and electropated ware.

(15) Nottingham, on the Trent, has manufactures of lace and hosiery.

(16) Birmingham is the metropolis of the hardware trade. Every kind of metal goods is made here, as firearms, brass work, artisans' tools, steel pens, jewellery, &c.

II.—Chief Harbours.—

(1) Milford Haven, in Pembrokeshire ;

(2) Falmouth, (3) Plymouth, and (4) Portsmouth.

III.—Naval Dockyards.—

(1) Portsmouth, (2) Devonport, (3) Chatham, (4) Sheerness, and (5) Pembroke.

IV.—Commercial Seaports.—

(1) London trades with all the world.

(2) Liverpool „ America, W. Indies, and Ireland.

(3) Hull „ countries on the Baltic, Holland, Belgium.

(4) Cardiff exports coal and iron goods to all parts of the world.

(5) The Tyne Ports trade with London and foreign ports, in coal.

(6) Bristol „ Ireland, America, W. Indies.

(7) Swansea, imports copper ore for smelting.

(8) Middlesborough, exports iron, coal, salt.

- (9) Southampton, mail packet station for the Mediterranean, India, China, etc.
- (10) Plymouth, trades with W. Indies and S. America.
- (11) Sunderland, „ Baltic.
- (12) Falmouth, has general foreign, and coasting trade.
- (13) Yarmouth has herring trade.
- (14) Barrow exports iron, copper, steel, slate.
- (15) Whitehaven exports coal to Ireland.

V.—Mineral Watering-Places.—

- (1) Bath, in Somerset; (2) Cheltenham, in Gloucestershire; (3) Leamington, in Warwickshire; (4) Harrogate and Ilkley, in Yorkshire; (5) Buxton, in Derbyshire; (6) Malvern, in Worcestershire; (7) Tunbridge Wells, in Kent; (8) Clifton, near Bristol.

VI.—Favourite Seaside Resorts.—

On the East coast—

- (1) Tynemouth, (2) Whitby, (3) Scarborough, (the gayest and most fashionable) (4) Filey, (5) Bridlington, (6) Yarmouth, (7) Lowestoft, (8) Southend, (9) Margate, the most popular, and (10) Ramsgate.

On the South coast—

- (1) Deal, (2) Folkestone, (3) Hastings and St. Leonards, (4) Eastbourne, (5) Brighton, (the gayest and most fashionable), (6) Worthing, (7) Bournemouth, (8) Weymouth, (9) Teignmouth, and (10) Torquay.

On the West coast—

- (1) Ilfracombe, (very fashionable, and gay), (2) Weston, (3) Tenby, (4) Bangor, (5) Southport, (6) Morecambe Bay.

Oversea—

(1) Douglas, in the Isle of Man (2) Ryde and Ventnor, in the Isle of Wight, and (3) Beaumaris, in Anglesey.

XVII.—CHIEF DIVISIONS.

England is divided into 40 Counties* or shires†, and Wales into 12.

The English Counties may be grouped as follows :—

* The name *County* is given to these divisions, because they were originally governed by *Counts* or Earls.

† The name *Shire* is derived from an Anglo-Saxon word *Sciran* 'to cut or divide.'

1. 5 South-Eastern Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
1	Surrey	Guildford	Wey	Hops	Croydon, Richmond.
2	Kent	Maidstone	Medway	Hops and Orchards.	Greenwich, Dover, Canterbury, Chatham, Sheerness, &c.
3	Sussex	Lewes	Onse	Sheep	Brighton, Hastings.
4	Hampshire	Winchester	Itchen	Hogs and Bacon	Portsmouth, Southampton, Newport.
5	Berkshire	Reading	Kennet	Do.	Windsor, Abingdon, Newbury.

2. 5 South-Western Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
6	Wiltshire	Salisbury	Nadder	Bacon and cheese.	Trowbridge, Marlborough.
7	Dorsetshire	Dorchester	Frome	Sheep	Weymouth.
8	Devonshire	Exeter	Exe	Copper and lead mines.	Plymouth, Torquay.
9	Cornwall	Bodmin	Camell	Tin mines	Truro, Falmouth.
10	Somersetshire	Taunton	Tone	Coal, iron, zinc, lead.	Bath, Bridgewater.

3. 3 Eastern Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
11	Essex	Chelmsford	Chelmer	Wheat	Colchester, Tilbury, Harwich.
12	Suffolk	Ipswich	Orwell	...	Bury St. Edmunds, Lowestoft.
13	Norfolk	Norwich	Wensum	Barley	Yarmouth.

4. 3 South Midland Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
14	Middlesex	Brentford	Brent	Vegetables	London, Hounslow, Harrow.
15	Hertfordshire	Hertford	Lea	Wheat and barley.	St. Albans.
16	Buckinghamshire.	Buckingham	Great Ouse	Pastures	Aylesbury, Eton.
17	Oxfordshire	Oxford	Cherwell	University	Woodstock.

4. 8 South Midland Counties—(continued).

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
18	Northamptonshire.	Northampton.	Nen ...	Boots	Peterborough.
19	Huntingdonshire.	Huntingdon ...	G. Ouse ...	...	St. Ives.
20	Bedfordshire ...	Bedford ...	Do.	Straw Flats	Luton.
21	Cambridgeshire.	Cambridge ...	Cam ...	University	Ely, Newmarket.

5. 7 West Midland Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
22	Monmouthshire...	Monmouth ..	Wye ...	Paper	Newport.
23	Gloucestershire ...	Gloucester ...	Severn ...	Cloth manufacture.	Bristol, Tewkesbury, Berkely.
24	Herefordshire ...	Hereford ...	Wye ...	Apples, hops, sheep.	Leominster.
25	Shropshire ...	Shrewsbury ...	Shrewsbury	Ecclesiastical remains.	Wenlock.

5. 7 West Middle Counties—(continued).

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
26	Worcestershire ..	Worcester ...	Severn ...	China and porcelain.	Dudley.
27	Warwickshire ..	Warwick ...	Avon ...	...	Birmingham, Coventry, Rugby, Stratford.
28	Staffordshire ..	Stafford ...	Sow ...	Boots and shoes ...	Stoke-upon-Trent, Wolverhampton.

6. 6 North Middle Counties.

No.	Name.	County town.	Situated on the River.	Famous for.	Other important towns.
29	Leicestershire ..	Leicester ...	Soar ...	Wool Market ..	Mowbray, Bosworth.
30	Rutland ..	Oakham ...	Wreak ...	...	Uppingham.
31	Lincolnshire ..	Lincoln ...	Witham ...	Cathedral ...	Boston, Stamford.
32	Nottinghamshire.	Nottingham ...	Trent ...	Lace and hosiery ...	Newark, Mansfield.
33	Derbyshire ..	Derby ...	Derwent .	Silk and lace ...	Chesterfield.
34	Cheshire ..	Chester ...	Dee ...	Ship-building ...	Stockport, Hyde.

7. 6 Northern Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns
35	Lancashire	Lancaster	Lune	Cotton goods	Liverpool, Manchester, Oldham.
36	Yorkshire	York	Ouse	Woollen fabrics	Leeds, Sheffield, Hull, Halifax, Wakefield, Whitby.
37	Durham	Durham	Wear	Mining	Sunderland, Stockton.
38	Northumberland.	Newcastle	Tyne	Coal	Tynemouth, Berwick.
39	Cumberland	Carlisle	Eden	Lake scenery	Whitehaven, Keswick.
40	Westmoreland	Appleby	Do.	Do.	Kendal.

8. 12 Welsh Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
1	Anglesea	Beaumaris	Menai St.	...	Holyhead.
2	Carnarvonshire...	Carnarvon	Do.	Its castle	Conway.
3	Denbighshire	Denbigh	Clwyd	Woollen and leather manufacture.	Wrexham.
4	Flintshire	Mold	Allen	Druidical remains..	Holywell, Flint, St. Asaph.
5	Merionethshire	Dolgelly	Maw	Woollen manufactures.	Bala, Festiniog.
6	Montgomeryshire.	Montgomery	Severn	Do.	Welshpool, Newton.
7	Cardiganshire	Cardigan	Telf	...	Lampeter.
8	Radnorshire	Presteign	Lugg	...	New Radnor.
9	Brecknockshire...	Brecknock	Usk	...	Hay.
10	Glamorganshire...	Cardiff	Taff	Ship building	Swansea.
11	Carmarthenshire.	Carmarthen	Towey	...	Llandillo.
12	Pembrokeshire	Pembroke	Milford Haven.	Dockyard	Milford, Tenby.

(a) THE ISLE OF MAN.

The Isle of Man is situated in the Irish Sea, about 50 miles from England. A range of highlands runs from the north-east to the south-west, of which the highest is Snaefell, 2000 feet. It is a self-governing dependency, under a governor appointed by the Crown. Its Parliament is called the 'House of Keys'. Its capital is **Douglas**, and the island has important lead mines. The people are of the Celtic race, and speak the Manx language.

(b) THE CHANNEL ISLANDS.

The Channel Islands are situated off the coast of Normandy. They are a group of self-governing dependencies, the largest of them being (1) Jersey, with its capital at St. Helier; (2) Guernsey, with its capital at St. Peter Port; and (3) Alderney, famous for its cows. The people are of the Norman race, and speak French.

WALES.

Wales forms a continuation of England, and lies in the west of it. The name comes from the old English *Wealas*, 'foreigners', a name given by the English to the native Britons who were driven into the west. Wales was annexed to England by Edward I. in 1284. In the same year Edward's eldest son was born in Carnarvon Castle, and in 1301, was created the first Prince of Wales. Ever since that time the eldest son of the reigning sovereign of England has borne this title. The old name of Wales was Cambria, and of the people Cymry or Kymry, meaning 'comrades', the name by which the Welsh still call themselves. The

people belong to the Celtic race and speak the Celtic language.

Wales is full of lofty mountains and beautiful scenery. It is a peninsula in form and is situated between the Irish Sea and the Bristol channel. It is 7400 square miles in area, and contains a population of over $1\frac{1}{2}$ million.

Questions.

1. What country is known as the United Kingdom? Give its area in square miles, and describe the general character of its people.
 2. Enumerate the geographical characteristics which have contributed to the greatness of the British Isles and the British people.
 3. Define as accurately as you can the extent of the British Empire as distributed over the different parts of the globe.
 4. Describe the geographical features of the coast of England and Wales.
 5. Name the six largest rivers of England and Wales, and name the principal towns situated on the banks of each.
 6. Name the chief lakes of England and Wales.
 7. What causes have made the climate of England one of the healthiest in the world?
 8. In what parts of England and Wales are the following produced :—Gold, silver, coal, tin, and copper.
 9. Name the principal exports and imports of England and Wales.
 10. Name *any ten* of the counties of England, giving the name of the county town, the river on which it is situated and, anything for which the place may be famous.
 11. What and where are—Douglas, Jersey, Alderney and St. Peter Port.
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2. SCOTLAND.

I.—POSITION AND EXTENT.

Scotland is the northern portion of Great Britain. It is bounded on the *north* by the Atlantic Ocean, on the *east* by the North Sea, on the *south* by England, and on the *west* by the Atlantic Ocean and North Channel. The *area* is nearly 30,000 sq. miles. The greatest length (from Dunnet Head in the north to the Mull of Galloway in the south) is 288 miles; the breadth varies from 175 to 32 miles.

II.—SEAS AND GULF.

On the East—Firth* of Forth, Firth of Tay, and Moray Firth, Cromarty Firth, and Dornoch Firth.

On the North—Portland Firth, joining the Orkneys with the mainland; Thurso Bay, Kyle of Tongue, and Loch Eriboll.

On the West—Loch† Linnhe, Loch Broom, Loch Torridon, Loch Carron, Loch Long, Firth of Clyde, &c.

On the South—Luce Bay, Wigtown Bay, Solway Firth.

III.—ISLANDS.

(1) The Shetland Isles, on the north, about 100 in number of which only 29 are inhabited. The largest of them are Mainland, Yell, and Unst. Lerwick, in Mainland, is the capital. The islands are famous for ponies, fine wool, and fisheries.

(2) The Orkneys, separated from the mainland by the Pentland Firth, consist of 67 islands, of which only 28 are inhabited, the largest being Pomona, Hoy, and Sanday. Kirkwall, in Pomona, is the capital. Agriculture and fishing are the chief industries.

* A *firth* means a narrow arm of the sea.

† A *loch* means a lake and also an arm of the sea.

(3) The Hebrides or Western Isles, about 500 in number of which 100 are inhabited. They consist of two groups, the Outer, and the Inner. The chief industries are fishing and sheep and cattle rearing.

(4) The Clyde group, consisting of Arran, Bute, the Bay and Little Cumbraes and Ailsa Crag.

Besides these groups, there are some isolated islands on the east coast—(1) the Isle of May, (2) Inchkeith, (3) Bass Rock, and (4) Inchcape Rock.

IV.—CAPES.

On the East :—St. Abb's Head, Fife Ness, Buddon Ness, Buchan Ness, and Kinnaird Head.

On the North :—Dunnet Head, and Cape Wrath ;

On the West :—Storr Head, and Ru Rea ;

On the South-west :—Mull of Galloway and Burrow Head.

V.—SURFACE.

The surface of Scotland is for the most part mountainous and rugged. The whole country may be divided into the Highlands in the north, and the Lowlands in the south. Three mountain ranges extend across Scotland from south-west to north-east :—

(1) The Northern Range,—Highest peaks, Ben Attow, Ben Dearg, and Ben More. (*Ben* = 'hill').

(2) The Grampians, or Central Highlands with its highest peak, Ben Nevis (4,406 feet)—the highest in the British Isles ;

(3) The Sidlaw Hills, the Ochils, and the Campsie Fells—Highest peak, Ben Cleuch, 2300 feet ;

(4) The Lowthers and Cheviot Hills, in the South.

VI.—PLAINS.

(1) Strathmore or the Great Valley, extending for about 40 miles between the Grampians and the Lidlaws and Ochils—the largest plain in Scotland ;

- (2) Plain of Caithness, in the north-east ;
- (3) Plain of the Forth and Clyde ;
- (4) The Merse of Berwick.
- (5) Glenmore, or the Great Glen, extending for 60 miles from the head of Loch Linhe to the Moray Firth ;
- (6) The Carse of Stirling, stretching from Falkirk to Stirling.

VII.—RIVERS.

The rivers of Scotland have generally an elevated source and a short and rapid course, and hence are not navigable to any large extent. Most of them abound with fish which forms an important source of wealth to the country. The following are the most noted rivers of Scotland :—

(1) The Clyde, which is commercially the most important river of Scotland. It rises in the Lowther Hills, flows past the towns of Lanark, Hamilton, Glasgow, and Dumbarton, and flows into the estuary of the Firth of Clyde. It carries on a great trade with Ireland and America. On its banks are to be found the greatest ship-building yards in the world.

Tributaries of the Clyde—the Daer, Elvan, Douglas, Water, Medwin, Avon, Leven, and others.

(2) The Tweed, which rises in Hart Fell, flows past Peebles, Melrose, Kelso, and Coldstream, and falls into the North Sea at Berwick. It is not navigable for any length, but is important for its salmon fishery and for its historical and literary associations.

Tributaries of the Tweed—the Whiteadder, Lander, Gala, Ettrick, Yarrow, Teviot, and Till.

(3) The Forth, which rises in the mountains bordering Loch Lomond, flows past Stirling, Grangemouth, Queensferry, Leith, Edinburgh and falls into the Firth of Forth.

Tributaries—the Firth, Allen, and Devon.

(4) The Tay, the largest of the Scottish rivers. It rises in the extreme west of Perthshire, flows past the towns of Dunkeld, Perth, and Dundee, and falls into the North Sea. It is navigable for small vessels up to Perth. At Dundee the river is crossed by the Tay Bridge, the longest in the world.

(5) The Spey, the most rapid river in Scotland. It rises in Loch Spey, flows past Fochabers and Kingussie, and falls into the North Sea. It is valuable for its extensive salmon fisheries.

VIII.—LAKES.

The Lakes of Scotland form a distinctive feature of its physical geography. They are not large, but they are numerous and of surpassing beauty.

(1) Loch Lomond, the largest lake in Great Britain.

(2) Loch Katrine, in Perthshire. Near it are the Trossachs, one of the most romantic scenes in the British Isles.

(3) Loch Awe, near the west coast ;

(4) Loch Leven, in Kinross. On one of the islands stand the ruins of the castle in which Mary Queen of Scots was imprisoned.

(5) Loch Ness, in Inverness.

(6) Loch Tay, in Perthshire.

(7) Loch Shin, in Sutherlandshire.

IX.—CLIMATE.

Scotland enjoys a climate remarkably healthy and particularly suited to the development of physical and mental energy. It is more rigorous than that of England. The annual *rainfall* varies from 22 to 44 inches in different parts.

X.—PRODUCTS AND INDUSTRIES.

Coal and iron are found in great abundance near the Forth and Clyde. Lead is obtained in the Lead Hills, part of the

(7) Culloden Moor, near Inverness, is famous for the final defeat of the Young Pretender by the English in 1746.

(8) Glencoe, to the N. E. of Oban, was the scene of the treacherous massacre of the Macdonalds by the Campbells in 1692.

(9) St. Andrews, on the east coast of Fife, is the seat of an ancient University, and of a Cathedral. Here it was that John Knox began his career as a preacher of the reformed faith.

(10) Dunfermline, in Fifeshire, is famous as the birthplace of James I. of Scotland, David II., and Charles I. Here in the abbey Robert Bruce's body was buried, and here also Charles II. signed the 'Solemn League and Covenant' in 1650.

(11) Linlithgow, 16 miles W. of Edinburgh, is famous as the birthplace of Mary Queen of Scots, and as the scene of the assassination of the Earl of Moray in 1570.

(12) Haddington, the birthplace of John Knox, the great reformer.

(13) Stirling, on the Forth, is celebrated for its castle, and for its having been the 'key to the Highlands' in ancient times.

(14) Glasgow, on the Clyde, is by far the largest city in Scotland. It is the industrial metropolis of Scotland.

(15) Edinburgh, the capital of Scotland, has been styled 'the Modern Athens,' from its splendid position and the architectural beauty of many of its buildings. It is an eminently literary city, and is celebrated for its great printing and publishing establishments. It is the seat of a University and of the Law Courts of Scotland.

IV. Mineral Watering-Places.

(1) Moffat, in Upper Annandale;

(2) Dunblane, on the Allan.

XII.—CHIEF DIVISIONS.

Scotland is divided into 33 counties, which may be grouped as follows:—

1. 10 Northern Counties.

No.	Name.	County Town.	Situated on the river.	Famous for.	Other important towns.
1	Shetland	Lerwick	...	Ponies	Dunrossness.
2	Orkney	Kirkwall	Kirkwall Bay	Cathedral	Stromness.
3	Caithness	Wick	Wick	Herrings	Castletown.
4	Sutherland	Dornoch	Dornoch Firth	...	...
5	Ross and Cromarty	Dingwall	Cromarty Firth	...	...
6	Inverness	Inverness	Ness	Linen and wool- lens.	Fort William.
7	Nairn	Nairn	Nairn	Watering-place	Croy.
8	Elgin (or Moray)	Elgin	Lossie	...	Grantown.
9	Banff	Banff	Doveron	...	Keith.
10	Aberdeen	Aberdeen	Dee	University	Peterhead.

2. 10 Central Counties.

No.	Name.	County Town.	Situated on the river.	Famous for.	Other important towns.
11	Kincairdine	Stoncheaven	Carron	...	...
12	Forfar or Angus...	Forfar	...	Linen and jute	Dundee, Montrose.
13	Perth	Perth	Tay	Shipbuilding	Dunblane.
14	Argyll	Inverary	Loch Fyne	Whisky	Campbeltown.
15	Bute	Rothsay	...	Sea-bathing	Milport.
16	Dumbarton (or Lennox)	Dumbarton	Leven	...	Glenaburgh.
17	Stirling	Stirling	Forth	Its antiquity and historical associ- ations.	Falkirk, Burnock- burn.
18	Clackmannan	Clackmannan...	Black Devon	...	Alloa.
19	Kinross	Kinross	Loch Leven	...	...
20	Fife	Cupar	Eden	Seat of the oldest University in Scot- land.	Kirkcaldy, St. An- drews.

13. Southern Counties.

No.	Name.	County Town.	Situated on the River.	Famous for.	Other important towns.
21	Renfrew	Renfrew	Clyde	Ship-building	Greenock, Paisley
22	Ayr	Ayr	Ayr	Carpets	Kilmarnock.
23	Lanark	Lanark	Clyde	University of Glasgow.	Glasgow, Hamilton.
24	Linlithgow (W. Lothian)	Linlithgow	...	Historical associations.	Bathgate.
25	Edinburgh (Mid Lothian).	Edinburgh	Firth of Forth	Edinburgh, the capital.	Leith, Dalkeith, Portobello.
26	Haddington (E Lothian).	Haddington	Tyne	Historical associations.	Dunbar, Prestonpans.
27	Berwick (or Merse)	Gretnaw	Blackadder	...	Dunse, Eyemouth.
28	Roxburgh	Jedburgh	Jed	Melrose Abbey	Hawick, Kelso, Melrose
29	Selkirk or (Ettrick Forest.)	Selkirk	Ettrick	Scott monuments	Galashiels.
30	Peebles (or Tweeddale)	Peebles	Tweed	...	...
31	Dumfries	Dumfries	Nith	Tweeds, hosiery, &c.	Annan.
32	Kirkcudbright	Kirkcudbright	Dee	...	Newton Stewart, Castle Douglas.
33	Wigtown	Wigtown	...	...	Stranraer, Whitborn

Questions.

1. Name from the map—
 - (a) the seas on the west coast of Scotland ;
 - (b) two capes on the east ;
 - (c) the highest peak in Scotland ;
 - (d) the principal towns situated on the river Clyde.
2. Describe (1) the climate, and (2) the products and industries of Scotland.
3. What do you understand by the Highlands and the Lowlands of Scotland? Name the three principal mountain ranges of Scotland.
4. Name the principal lakes of Scotland. Which of them is the largest?
5. Name *any ten* of the Scottish counties, mentioning the name of the county town, the river flowing through it, and anything for which the place may be famous.

3. IRELAND.

I.—POSITION AND EXTENT.

Ireland^{*} is bounded on the east by the North Channel, the Irish Sea, and St. George's Channel ; and on the south, west, and north, by the Atlantic Ocean. The *area* is 32,500 sq. miles. Its greatest length, from Fair Head to Mizen Head, is 300 miles ; its greatest breadth, from Shyne Head to Howth Head, is 175 miles.

II.—SEAS AND GULFS.

On the East :—Belfast Lough, Dublin Bay, Dundalk Bay, and Wexford Bay ;

On the South :—Waterford Harbour, and Cork Harbour ;

On the South-west :—Bantry Bay, and Dingle Bay ;

On the West :—Estuary of the Shannon, Galway Bay, and Donegal Bay ;

On the North :—Lough Foyle and Lough Swilly.

* The name Ireland comes from a Gaelic word meaning "western island." Its native Celtic name is *Erin*, and the Romans called it *Hibernia*.

III.—CHANNELS.

- (1) The North Channel, between Ireland and Scotland ;
- (2) St. George's Channel, between Ireland and Wales

IV.—ISLANDS.

These are very small and of little importance.

Off the East coast—Ireland's Eye, and Lambay ;

Off the South coast—Spike Island, and Clear Island ;

Off the West coast—Bear island, Valentia, Basket Isles, Arran Isles ;

Off the North coast—Tory Island and Rathlin Island.

V.—CAPES.

East.—Garron Point, Howth Head ;

South.—Hook Head, Kinsale, Cape Clear, and Mizen Head ;

West.—Kerry Head, Black Head, Bloody Foreland ;

North.—Horn Head, Fair Head, Malin Head, Bloody Foreland, and Bengore Head.

VI.—MOUNTAINS.

The mountains of Ireland do not run in chains, but are in scattered groups or isolated masses, chiefly near the coasts, whilst the centre of the country, which they almost encircle, is flat and covered with bogs.

- (1) Kerry mountains, in the county of Kerry—the highest peak is *MacGillycuddy Reeks* ;
- (2) Silvermine mountains, in the county of Tipperary ;
- (3) Slieve Bloom Mts., in Tipperary and Queen's County ;
- (4) Wicklow Mts., in the county of Wicklow.

VII.—PLAINS.

Ireland has a vast plain having an average height of 250 feet. This is divided into the Northern Plain, the Central Plain, the

Eastern Plain, the Western Plain, and the Plain of Limerick. A great part of this plain consists of bogs and morasses.

VIII.—RIVERS.

The Irish rivers have very short courses and hence are not adapted for commerce. They rise in the Highlands which encircle the island and fall into the sea on the same side on which they spring. The following are important :—

(1) The Shannon, the largest river in Ireland, rises in the hills of County Cavan, flows past the towns of Carrick, Athlone, and Limerick, and falls into the Atlantic.

Tributaries—the Suck, Boyle, Inny, Brosna, Maigne.

(2) The Barrow, which rises in the Slieve Bloom mountains, and passing through the towns of Athy, Carlow, and New Ross, falls into Waterford Harbour.

Tributaries—the Nore and Suir.

(3) The Blackwater, which rises in the Kerry Heights, and flowing through Cork and Waterford, falls into Youghal Harbour.

(4) The Bann, which rises in the Mourne Mts, and flowing through the towns of Banbridge, Gilford, and Portadown, falls into Lough Neagh and thence issuing out the lake and passing through the towns of Portglenone and Coleraine, falls into the Atlantic Ocean.

(5) The Erne, which rises in Cavan and flowing through Enniskillen and Ballyshannon, expands into the lakes of Upper and Lower Erne.

(6) The Boyne, which rises in the bog of Allen and passing through Trim, Navan, and Slane, falls into the Irish Sea.

IX.—LAKES.

(1) Lough Neagh, in the N. E., the largest lake in the British Islands

- (2) Lough Erne, in Ulster ;
- (3) Lough Mask, in W. Ireland ;
- (4) Lough Corrib, in the county of Galway ;
- (5) Lakes of Killarney, in the county of Kerry, celebrated for their picturesque scenery.

X.—CLIMATE.

Owing to the numerous seas and gulfs, Ireland enjoys a mild and genial climate. The *prevailing winds* are from the west and bring a more than average quantity of rain. This is so favourable to the growth of vegetation that from very early times Ireland has been called the green or “ Emerald Isle.”

XI.—PRODUCTS AND INDUSTRIES.

Ireland is chiefly a grazing country. Oats, potatoes, and barley are the chief vegetable productions. Ireland is famous for its linen, known as *Irish linen*.

XII.—IMPORTANT TOWNS.

(1) Dublin, the capital, stands at the mouth of the Liffey. Much of its trade passes through Kingstown, on the S. side of Dublin Bay.

(2) Belfast, the first commercial port of Ireland, being the centre of the Ulster linen trade, and containing large shipbuilding yards, iron foundries, glass works, etc.

(3) Cork, on the Lee, is the capital of Munster, and the third commercial port. It largely exports provisions and cattle, and its harbour is one of the finest in the world.

(4) Galway, on Galway Bay, is the capital of Connaught. Near it is Aghrim, where the army of James II. was defeated by the forces of William III. in 1691.

(5) Limmerick, on the Shannon, is another commercial seaport. It has manufactures of lace and gloves, and is noted for two memorable sieges in 1690-91.

(6) Londonderry, on Lough Foyle, is so called because the land upon which it stands was granted to London companies in the reigns of James I. It is noted for its famous siege in 1689.

(7) Waterford, on the Suir, has a good coasting trade and has large exports of provision and agricultural produce.

(8) Armagh, in Ulster, is the seat of the Primate of Ireland. It has a famous observatory.

(9) Kilkenny, on the Nore, is an ancient city containing many archaeological remains. In its neighbourhood are extensive marble quarries.

(10) Athlone, on the Upper Shannon, is a great military station.

(11)—(14) Ballinasloe, Galway, Mullingar, and Westmeath are noted for their great fairs.

(15) Cashel, in Tipperary, is the seat of a Roman Catholic Archbishop, and contains many interesting ecclesiastical and other remains.

(16) Tara, near Trim, in County Meath, was the seat of the ancient kings of Ireland.

(17) Downpatrick, in County Down, is said to be the burial place of St. Patrick, patron saint of Ireland.

XIII.—CHIEF DIVISIONS.

Ireland is divided into four provinces, Ulster, Leinster, Munster, and Connaught. It is subdivided into 32 counties as follows :—

1. Nine Counties in Ulster.

<i>Name.</i>	<i>County Town.</i>	<i>Name.</i>	<i>County Town.</i>
(1) Donegal	Lifford	(5) Down	Downpatrick.
(2) Londonderry	Londonderry	(6) Armagh	Armagh.
(3) Antrim	Belfast	(7) Monaghan	Monaghan.
(4) Tyrone	Omagh	(8) Cavan	Cavan.
		(9) Freemanagh	Enniskillen.

2. Five Counties in Connaught.

<i>Name.</i>	<i>County Town.</i>	<i>Name.</i>	<i>County Town.</i>
(10) Leitrim.	Carrick	(12) Mayo	Castlebar
(10) Sligo	Sligo	(13) Roscommon	Roscommon.
		(14) Galway	Galway

3. Twelve Counties in Leinster.

<i>Name.</i>	<i>County Town.</i>	<i>Name.</i>	<i>County Town.</i>
(15) Louth	Dundalk	(21) Dublin	Dublin
(16) Meath	Trim	(22) Wicklow	Wicklow
(17) Longford	Longford	(23) Queen's county	Maryborough
(18) Westmeath	Mullingar	(24) Carlow	Carlow
(19) King's County	Tullamore	(25) Wexford	Wexford
(20) Kildare	Athy	(26) Kilkenny	Kilkenny

4. Six Counties in Munster.

<i>Name.</i>	<i>County Town.</i>	<i>Name.</i>	<i>County Town.</i>
(27) Clare	Ennis	(30) Limerick	Limerick
(28) Tipperary	Clonmel	(31) Cork	Cork
(29) Waterford	Waterford	(32) Kerry	Tralee.

Questions.

1. Give the exact geographical position of Ireland.
2. Name from the Map the principal indentations on the Irish coast and also the most marked projections.
3. Name the chief islands lying off the coast of Ireland.
4. Why is Ireland called the "Emerald Isle." ? Name the chief products and industries of the island.
5. How does the climate of Ireland differ from that of England ?
6. Name the four provinces of Ireland, and any two counties in each of them, giving the name of the county town in each case.
7. What and where are the following :—MacGillycuddy Reeks ; Valentia ; Kinsale ; the Boyne ; Lough Erne ; Limerick ; Londonderry.

(B.)—NORWAY AND SWEDEN.

I.—POSITION AND EXTENT.

Norway and Sweden (now united under one king) constitute the Scandinavian Peninsula. They are bounded on the *north* by the Arctic Ocean, on the *east* by Russia, the Gulf of Bothnia, and the Baltic; on the *south* by the Baltic, the Cattegat, and the Skager Rack; and on the *west* by the North Sea and the Atlantic Ocean. The *area* is nearly 300,000 sq. miles. It is the largest country in Europe, excepting Russia.

II.—SURFACE.

The chief physical features of Norway and Sweden are:—

- (1) Numerous valleys intersecting the country;
- (2) Numerous *fiords*, *i. e.*, arms of the sea running up a considerable distance into the land, and often bordered by mountains 5,000 feet high;
- (3) Numerous waterfalls, which are grander than those of any country in Europe.

1. *Capes*.—Cape Lindesnas or the Naze, in the south; Cape Nordkyn and Cape North, in the north; and Cape Ealsterbo in the south-west.

2. *Inlets*.—The chief of them is the Christiana Fiord, connected, on the Norway shore, with the Skager Rak, and on the Swedish shore by the Cattegat.

3. *Mountains*.—Scandinavia is for the most part a plateau reaching its greatest height in the Jotunfield, (8,400 feet).

III.—ISLANDS.

- (1) The Lofoden Isles, in the Arctic Ocean;
- (2) The *Æland* and *Gothland*, off the south-east coast.

IV.—RIVERS AND LAKES.

The Glommen is the only important river of Norway. The Tornea is the longest river in Scandinavia. The chief lakes are Wener, the third largest in Europe, Wetler, Malar, and Hielmar.

V.—CLIMATE.

The climate of *Norway* is tempered by the Gulf Stream, but it is very varied nevertheless, the short summer being excessively hot, and the long winter cold. *Sweden*, though very cold, enjoys a temperate climate and is drier than Norway.

VI.—PEOPLE.

The *population* is only about $7\frac{1}{2}$ millions, for the country is too unproductive to support a larger. The bulk of the population belongs to the Scandinavian branch of the Teutonic race. The north is peopled by *Laps* and *Finns*. The prevailing religion is Lutheranism.

VII.—PRODUCTS AND INDUSTRIES.

Among *minerals*, iron, silver, copper, zinc and gold are found in moderate quantities. Both countries produce and export excellent timber. The *manufacture* of matches is large in Sweden. Norway has valuable cod and herring fisheries.

VIII.—TRADE AND COMMERCE.

1. *Imports*.—Coal, clothing materials, metal articles, machinery, grocery, and food-stuffs.

2. *Exports*.—Timber, and metals.

IX.—GOVERNMENT AND TOWNS.

Since 1844 Norway and Sweden have nominally been under one king, but practically the two are independent, having separate armies and navies. The chief towns are :—

(1) Stockholm, the capital ; •

- (2) Upsala, an ancient university town ;
- (3) Goteborg, an important seaport ;
- (4) Malmo, on the Sound ;
- (5) Christiana, capital of Norway ;
- (6) Bergen, the chief fishing port in northern Europe.

Questions.

1. Give the boundaries of Norway and Sweden, and state its area in square miles.
2. Describe the character of the surface of Scandinavia, and name the chief islands lying off its coast.
3. Describe the climate of Norway and Sweden, and give a short account of the inhabitants.
4. Name the chief products and industries of the country and the principal articles of export and import.
5. Describe the Government of Norway and Sweden and name some of the principal towns.

(C.)—DENMARK.

I.—POSITION AND EXTENT.

Denmark consists of Jutland and an archipelago of some 200 islands in its vicinity. It is bounded on the *north* by the Skager-Rak, on the *east* by the Cattegat and the Sound, on the *south* by the Baltic Sea and Germany, and on the *west* by the North Sea.

II.—SEAS AND GULFS.

The Sound separates Denmark from Sweden. The Great Belt separates Seeland (one of the islands forming the kingdom of Denmark) from Funen, another of the same islands.

The Little Belt is the narrowest strait between the Cattegat and the Baltic.

Capes.—Skaw, in the north-east ; and Horn, in the south-west.

III.—ISLANDS.

More than one-third of Denmark consists of islands, the most important of which are :—

Zealand, Funen, Langeland, Laaland, Falster, Bornholm, Moen, and Samsø.

IV.—SURFACE.

Denmark forms part of the great plain of Northern Europe and its surface nowhere reaches an elevation of more than 600 feet. The country is generally flat and monotonous, but there are some well-wooded hills in the east.

V.—RIVERS AND LAKES.

There are no large rivers in Denmark, owing to the absence of mountains and the short distance of every part of the country from the sea. There are lagoons in the west. Limm Fiord is a large lake, connected with the sea at both ends.

VI.—CLIMATE.

The climate of Denmark, as compared with its latitude, is temperate. The prevailing westerly winds bring much rain, which is very favourable to vegetation.

VII.—PEOPLE.

The *population* is over $2\frac{1}{2}$ millions, and the people belong to the Scandinavian branch of the Teutonic race. The prevailing *religion* is Lutheranism.

VIII.—GOVERNMENT AND TOWNS.

The *Government* is a limited monarchy, with two houses of parliament elected by the people. The *chief towns* are :—

- (1) Copenhagen, the capital, on the Sound ;
 - (2) Elsinore, a fortress at the narrowest part of the Sound ;
 - (3) Aarhus, the largest town of Jutland ;
 - (4) Odense, the largest town in Funen.
-

ICELAND.

Iceland is a dependency of Denmark, ruled by a Governor-General. Volcanoes (of which Hekla is the best known) are numerous. The only town is Reykjavik, the capital. The Faroe Islands, between Shetland and Iceland, belong to Denmark.

 Questions.

1. What portions of land constitute the country of Denmark? How is the country bounded?
2. Name the principal coast features of Denmark—that is, seas and gulfs, straits, capes, and islands.
3. Describe the character of the surface in Denmark, and name any large rivers and lakes that you remember.
4. Name the chief towns of Denmark and say what you know of each.
5. Give some account of Iceland.

 (D.)—HOLLAND.

I.—POSITION AND EXTENT.

Holland* is bounded on the *north* and *west* by the North Sea, on the *east* by Germany, and on the *south* by Belgium. The *area* is just over 20,000 sq. miles.

II.—SURFACE.

The country is very flat and low, and large portions of it are below the sea level and are protected by embankments. The chief *rivers* are the Scheldt, the Maas, and the Rhine, with the smaller ones, Waal, and Lek.

III.—CLIMATE.

The *climate* of Holland is humid, raw and often foggy. The *prevailing winds* are from the west and south-west. The annual rainfall is 26 inches.

* Holland literally means *hollow land*. The country is named after its principal province. It is also called the Netherlands, or the Low Countries.

IV.—PEOPLE.

The *population* is over $5\frac{3}{4}$ millions and belongs to several branches of the Teutonic *race*. The prevailing *religion* is Presbyterianism. The Dutch people are thrifty and industrious.

V.—PRODUCTS AND INDUSTRIES.

These include—rye, potatoes, grasses, cattle, flowers. There are no minerals. Cloth-making, ship-building, &c., are some of the industries.

VI.—TRADE AND COMMERCE.

The Dutch are born traders and sailors.

1. *Imports*.—Cereals, iron, textiles, wood, and coal.
2. *Exports*.—Butter, cheese, sugar, and meat.

VII.—GOVERNMENT AND TOWNS.

The *Government* is a limited monarchy, and the country formed part of Belgium till 1830.

The *Chief Towns* are:—

- (1) The Hague, the capital ;
- (2) Amsterdam, the greatest commercial town ;
- (3) Rotterdam, a great seaport on the Meuse ;
- (4) Utrecht, a university town ;
- (5) Haarlem, an industrial town ;
- (6) Leiden, another old university town ;
- (7) Flushing, at the mouth of the Scheldt.

VIII.—FOREIGN POSSESSIONS.

These are:—

- (1) Java, in the East Indies ;
- (2) A large part of the Malay Archipelago ;
- (3) Guiana, in South America ;
- (4) Several islands in the West Indies.

Questions.

1. Give the boundaries of Holland. What is the origin of the name? By what other name is the country known?
 2. Describe the principal surface features of Holland.
 3. By what name are the inhabitants of Holland known? To what race do they belong? Describe their religion and character.
 4. Name the chief products and industries of Holland and the principal articles of export and import.
 5. Name *any six* of the chief towns of Holland, and state what you know of each.
 6. Give a list of the foreign possessions of Holland.
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(E.)—BELGIUM.

I.—POSITION AND EXTENT.

Belgium* is bounded on the *north* by Holland, on the *east* by Germany and Luxemburg, on the *south* by France, and on the *west* by the North Sea. The *area* is about 11,000 sq. miles.

II.—SURFACE.

The W. and N. parts are flat. The S. and E. are covered by ramifications of the Ardennes mountains, but there is no mountain range properly so called. The principal *rivers* are the Meuse in the east, and the Scheldt in the west.

III.—CLIMATE.

The *climate* is genial like that of England, but the summer is hotter and the winter colder. The annual *rainfall* is about 26 inches.

* The name Belgium is derived from that of a tribe called the Belgæ.

IV.—PEOPLE.

Belgium is the most densely-populated country in Europe, having a population of $6\frac{3}{4}$ millions, giving 590 inhabitants to the square mile. The Walloons in the south-east are of Celtic origin, and the Flemings are of the Teutonic race.

V.—PRODUCTS.

Belgium is rich in *minerals*, which include coal, iron, and zinc. The chief *agricultural* crops are wheat, oats, rye, potatoes, flax, and hemp. Belgium is noted for its manufactures of metals, lace, carpets, linen, woollen cotton and silk cloths, and velvet.

VI.—TRADE AND COMMERCE.

1. *Imports*.—Cereals, timber, chemicals, cotton and drugs.
2. *Exports*.—Linen, woollens, coal, machinery, glassware.

VII.—GOVERNMENT AND TOWNS.

The Government is a limited monarchy. The *chief towns* are:—

- (1) Brussels, the capital, in the centre of the country ;
Waterloo is ten miles south of Brussels.
- (2) Antwerp, on the Scheldt, the chief commercial city ;
- (3) Liege, on the Meuse, noted for its iron manufactures ;
- (4) Ghent, on the Scheldt, famous for its cotton manufactures.
- (5) Bruges, the capital of W. Flanders, an ancient town which in the 13th century was the chief town of the Hanseatic League and the metropolis of the world's commerce. Its old tapestry is of European celebrity but its principal manufacture now is lace.
- (6) Ostend, a favorite seaside resort, with one of the finest promenades in Europe.

VIII.—FOREIGN POSSESSIONS.

The sole foreign possession of Belgium is the Congo Free State, in Central Africa.

LUXEMBURG.

Luxemburg is a small state to the south-east of Belgium, ruled by a Grand Duke.

Questions.

1. Give the boundaries of Belgium and state the origin of the name.
2. Describe the surface of Belgium.
3. Give a short account of (1) the people, (2) the products, (3) the trade and commerce, of Belgium.
4. Name *four* of the principal towns of Belgium stating anything noteworthy about them that you know of.
5. Does Belgium rule any territory outside Europe? If so where? What and where is Luxemburg?

(F.)—FRANCE.

I.—POSITION AND EXTENT.

France* is bounded on the *north* by the English Channel and Belgium; on the *east* by Germany, Switzerland, and Italy; on the *south* by the Mediterranean Sea and Spain; and on the *west* by the Bay of Biscay. The *area* is about 204,000 sq. miles.

II.—SURFACE.

The country is mountainous in the south and east. The principal *mountains* are:—

- (1) The Pyrennes, between France and Spain.
- (2) The western Alps, between France and Italy. *Mont Blanc*, the highest Alpine peak, is in France.

* France derives its name from the Franks, a Germanic people who settled in the country at a very early period and gave it its present name.

- (3) Jura Mts., between France and Switzerland.
- (4) Vosges Mts., between France and Germany.
- (5) Cevennes Mts., west of Alps.
- (6) Mts. of Auvergne, west of the Cevennes.

III.—CAPES, SEAS, AND STRAITS.

1. *Capes*.—Cape Finisterre in the west; La Hague, in the north-west.
2. *Seas*.—Gulf of the Seine and the Gulf of St. Malo, on the N. W., the Gulf of Lyons, on the S. E.
3. *Straits*.—Straits of Dover, between France and England; of Breton, between the mainland and the Isle of Breton; of Antioch, between the isles of Re and Oleron.

IV.—ISLANDS.

- (1) The small islands near the coast, Ushant, Belle Isle, Re, Oleron, &c. in the Bay of Biscay, are of little importance.
- (2) Corsica, in the Mediterranean, though geographically belonging to Italy, forms one of the departments of France.

V.—RIVERS.

- (1) The Seine, flowing into the English Channel;
- (2) The Loire, the largest river in France, and (3) the Garonne, flowing into the Bay of Biscay;
- (4) The Rhone, falling into the Mediterranean.

Besides these, France contains the upper courses of the Scheldt, the Muse, and the Moselle.

IV.—CLIMATE.

France has an excellent climate, but the eastern parts are rather subject to extremes of heat and cold. The Mediterranean coast enjoys the finest climate.

The average annual rainfall is $29\frac{1}{2}$ inches, as compared with 34 of Great Britain.

VII.—PRODUCTS.

France has little of *minerals*, except iron ore and building stones. Of *agricultural* products, wheat, maize, barley, hops, and wine are grown. France is famous for its wine.

VIII.—PEOPLE.

The *population* is nearly 39 millions, and is of mixed race, but the predominant *race* is the Celtic, though Flemings and Basques are found here and there.

The language of fashion is French, but the low classes speak a dialect called *Patois*.

IX.—TRADE AND COMMERCE.

1. *Imports*.—Wool, silk, cotton, cereals, wood, coal, coffee, hides, and furs.

2. *Exports*.—Silk woollen and cotton goods, wines, and dairy produce.

The imports are much larger than the exports.

X.—GOVERNMENT AND TOWNS.

The *Government* of France, which has passed through many changes, is at present a Republic, of which the chief executive authority rests with the President and his ministers, and the legislative authority with the National Assembly, composed of the Senate and the Chamber of Deputies. The *army* is recruited by universal conscription, and is one of the largest in Europe. The *navy* is second only to that of England.

The *chief towns* are :—

Paris, the capital, with Versailles, ten miles south-west, containing the palace ;

Manufacturing Towns.—(1) Lyons, the chief seat of the silk manufacture ;

- (2) St. Etienne, the home of the iron manufacture ;
- (3) Rouen, the centre of the cotton trade ;
- (4) Lille, famed for linen and cotton manufactures.

Seaports.—(1) Marseilles*, the greatest seaport in France ;

- (2) Bordeaux, on the Garonne ;
- (3) Nantes, on the Loire ;
- (4) Havre, at the mouth of the Seine ;
- (5) Calais, on the Strait of Dover ;
- (6) Dunkirk, Boulogne and Dieppe, on the English Channel ;
- (7) La Rochelle, on the Bay of Biscay.

Naval Stations.—(1) Toulon, on the Mediterranean ;

- (2) Brest, on the Atlantic ;
- (3) Cherbourg, on the English Channel.

XI.—FOREIGN POSSESSIONS.

- (1) Algeria in N. Africa ;
- (2) Senegal, Niger, and Congo, in Western Africa ;
- (3) French Guiana (or Cayenne), in South America ;
- (4) Madagascar and Bourbon, in the Indian Ocean ;
- (5) Pondicherry, Chandernagore, &c. in India ;
- (6) Ton-King and French Indo-China ;
- (7) New Caledonia, in the Pacific ;
- (8) Several islands in the West Indies ;
- (9) Tunis, and Annam are French protectorates.

Questions.

1. Give the boundaries of France and name the principal mountain ranges.
2. Name the chief bays and projections on the coast of France, and the islands connected with it.

* Anciently called *Masilla*, founded by the Greeks in 600 B. C.

3. Name the four largest rivers of France, and describe the climate of that country.

4. To what race of mankind do the French people belong? What is the population and the language of the country?

6. Name three (1) Manufacturing towns, (2) Seaports, and (3) Naval stations, of France.

7. Give a complete list of the foreign possessions of France.

(G.)—SWITZERLAND.

I.—POSITION AND EXTENT.

Switzerland* is bounded on the *north* by Germany, on the *east* by Austria, on the *south* by Italy, and on the *west* by France. The *area* is nearly 16,000 square miles.

II.—SURFACE.

Except in the north and north-west, Switzerland is everywhere mountainous. It is the most mountainous and elevated country in Europe. The chief branches of the Alps in Switzerland are:—

(1) The Valais Alps, running south-west from Mt. St. Gothard, with their highest peak Monte Rosa (15,217 ft.);

(2) The Bernese Alps, covering the centre of W. Switzerland;

(2) The Swiss Alps, stretching N. E.;

(4) The Ticino Alps, stretching east;

(5) The Rhœtian Alps, stretching north-west between Switzerland and Austria;

(6) The Jura Mountains, between Switzerland and France.

* Switzerland means 'the land of the Switzers,' the inhabitants of Schwyz, the Canton which first raised the flag of liberty. The Romans called it Helvetia.

The Alps are crossed by several Passes, of which the most important are :—

- (1) The Great St. Bernard ;
- (2) The Cervin Pass ;
- (3) The Simplon Pass ;
- (4) The St. Gothard Pass.

A tunnel beneath the St. Gothard now connects the Swiss Railways with the Italian, and it is the longest tunnel in the world.

The Swiss Plateau, or the Plain of Switzerland, stretches from the shores of Lake Geneva to Lake Constance, and has an average elevation of 1,300 feet.

III.—RIVERS AND LAKES.

The principal rivers are :—

- (1) The Rhine, Thur, Toss, Aar, &c., flowing into the North Sea ;
- (2) The Rhone, the Doubs, flowing into the Mediterranean ;
- (3) The Inn, flowing into the Black Sea.

The *lakes* of Switzerland are all famous for their beauty. The chief of them are :—

Lakes Constance, Zurich, Lucerne, Neuchatel, Bienne and Geneva or Leman.

IV.—CLIMATE.

Switzerland is colder than other countries in the same latitude, owing to—

- (1) its great elevation above the sea level ;
- (2) its inland position ;
- (3) its countless snow-clad peaks.

At the same time the climate is one of great variety, the northern parts being colder than the southern. The annual *rainfall* varies from 20 to 90 inches.

V.—PRODUCTS AND INDUSTRIES.

Vegetable productions include maize and the ordinary kinds of grain, but wheat is not extensively cultivated. The country is poor in *minerals*. The watch-making *industry* of Switzerland is famous, the Geneva watch being one of the best time-keepers.

Cotton, silk and woollen manufactures are carried on in the north.

VI.—PEOPLE.

The *population* is about $3\frac{1}{2}$ millions. The Swiss belong partly to the Teutonic and partly to the Romanic *race*. The prevailing language is German, but some speak French and some Italian. The *religion* of the majority is Protestantism, Geneva being the birth-place of Calvinism.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Grain, raw cotton and silk, coal, tobacco, sugar, and coffee.
2. *Exports*.—Silk and cotton manufactures, watches, cheese and condensed milk.

VIII.—GOVERNMENT AND TOWNS.

The *Government* is a Federal Republic, consisting of 22 *Cantons* or divisions, each with its own government, independent of the rest, the central government retaining control only over matters affecting the interests of the whole people. This form of government is inevitable in a country the different parts of which are cut off from one another by high mountains.

The most important *towns* are :—

- (1) Zurich, the capital of the canton of that name, is the largest town in Switzerland ;
- (2) Basel, on the Rhine, in the north ;

- (3) Geneva, on the Rhone ;
- (4) Bern, the federal capital, in the middle of the Swiss plateau ;
- (5) Neuchatel, on Lake Neuchatel ;
- (6) Lucerne, in the Eugadine.
- (7) Lausanne, on the northern shore of Lake Geneva ;

Questions.

1. Give the boundaries of Switzerland. How does Switzerland differ from the other European countries in respect of boundaries ?
2. Describe the surface features of Switzerland, noting especially (1) the principal mountain ranges, (4) the chief passes, and (3) the plateaux, of the country.
3. Name the most important rivers and lakes of Switzerland.
4. What causes make Switzerland colder than other countries in the same latitude ?
5. Give a short account of (1) the people, and (2) the government of Switzerland.
6. Name six of the most important towns of Switzerland, and give the exact position of each.

(H.)—GERMANY.

I.—POSITION AND EXTENT.

The German Empire is composed of 26 states in the centre of Europe. It is bounded on the *north* by the North Sea. Denmark, and the Baltic ; on the *east* by Russia and Austria ; on the *south* by Austria and Switzerland ; and on the *west* by France, Belgium and Holland. The total area is 208,000 sq. miles.

The most important of the states that form the German Empire are Prussia, Bavaria, Wurtemberg, Saxony, and Baden.

II.—SURFACE.

Germany is naturally divided into four parts; (1) the N. German Plain; (2) the Central Highlands; (3) the sub-Alpine Plateau; (4) the Alps.

The chief *mountains* are:—

- (1) The Fichtelgebirge, in the N. E. of Bavaria;
- (2) The Bohemian Forest, between Bavaria and Bohemia;
- (3) The Bavarian Alps, in South Bavaria;
- (4) The Franconian Jura, running between (2) and (3);
- (5) The Black Forest, on the east of the Rhine;
- (6) The Vosges, west of the Rhine;
- (7) The Haza Mts., in the north of the central Highlands.

The *highest peak* in Germany is Zugspitze, in the Bavarian Alps.

III.—RIVERS AND LAKES.

- (1) The Rhine, Ems, Weser, and Elbe,—flowing into the North Sea;
- (2) the Oder, Vistula and Nieman,—flowing into the Baltic;
- (3) the Danube,—flowing into the Black Sea.

Although Germany possesses many lakes they are neither large nor picturesque.

The chief of them are—

- (1) Muritz, in the north;
- (2) Spirding, in N. E. Prussia;
- (3) Chiem-See, in S. E. Bavaria.
- (4) Wurm-See, in Upper Bavaria.

IV.—CLIMATE.

The *climate* varies with the aspect of the country, being cold in the north, genial and dry on the uplands, and extreme

on the mountains and in the valleys. The average *rainfall* is about 28 inches.

V.—PRODUCTS AND INDUSTRIES.

The highlands are rich in *minerals*, possessing large quantities of coal and iron; zinc, lead, silver and copper are also largely found. The chief *agricultural* crops are wheat, barley, rye, oats and potatoes. In *industries*, Germany ranks next only to the British Isles. The chief manufactures are woollens, linen, cotton and silk, iron, paper, sugar, glass, pottery, chemicals and machinery. Next to the United States, Germany has the greatest railway system in the world.

VI.—PEOPLE.

The *population* is above 60½ millions, distributed at the rate of 290 per square mile. They belong mainly to the Teutonic *race*, but there is an admixture of the Celtic, Slavonic and Polish races. The educated classes speak High German, the others Low German. The majority are Protestants, Germany being the birth-place of Protestantism.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Grain, raw cotton, wool, coffee, hides and petroleum.

Exports.—Iron, machinery, sugar, coal, clothing, paper, pottery, glass, leather goods, and dyes.

VIII.—GOVERNMENT AND TOWNS.

The whole of the states composing the Empire are ruled by an Emperor, who is king of Prussia; but the individual states have separate governments, sending representatives to the *Imperial Diet*, which is the grand council of the whole nation.

The *army* is the largest and the most efficient in Europe. *Education* is more perfectly organised in Germany than anywhere else in the world.

The *chief towns* are :—

- (1) Berlin, the capital of Prussia and of the Empire ;
- (2) Hamburg, the greatest seaport on the Continent ;
- (3) Munich, capital of Bavaria ;
- (4) Leipzig, in Saxony, the chief centre of inland trade ;
- (5) Breslau, capital of Silesia ;
- (6) Dresden, capital of Saxony ;
- (7) Cologne, on the Rhine ;
- (8) Frankfurt, the great trade centre of western Germany ;
- (9) Magdeburg, on the Elbe ;
- (10) Hanover, capital of the province of that name ;
- (11) Nuremberg, in Bavaria ;
- (12) Stuttgart, capital of Wurtemberg ;
- (13) Bremen, on the Weser ;
- (14) Strassburg, capital of Alsace-Lorraine ;
- (15) Danzig, on the Vistula ;
- (16) Brunswick, capital of the Duchy of that name ;
- (17) Aix-la-Chapelle, or Aachen.

IX.—FOREIGN POSSESSIONS.

- (1) *In Africa*—German south-west Africa, German East Africa, Kameroun, and Togoland ;
- (2) *In China*—Kianchau Bay ;
- (3) *In the Pacific*—Several archipelagos.

Questions.

1. Give as carefully as you can the boundaries of Germany. Name the most important of the states that form the German Empire.

2. Into what parts may Germany be divided in point of surface? Name the highest peak in Germany.
3. Name the chief rivers and lakes of Germany.
4. What kinds of climate are found in Germany? What is the amount of rainfall?
5. Mention the chief products and industries of Germany, and name the principal articles of export and import.
6. Give a short account of (1) the people, and (2) the Government of Germany.
7. Name six of the most important towns of the German Empire, and mention anything of importance in connection therewith that you may know of.
8. Give a list of the foreign possessions of the German Empire.

(I.)—AUSTRO-HUNGARY.

I.—POSITION AND EXTENT.

The Austro-Hungarian^{*} monarchy is bounded on the *north* by Germany and Russia; on the *east* by Russia and Roumania; on the *south* by Turkey, the Adriatic Sea and Italy; and on the *west* by Italy, Switzerland, and Bavaria. The *area* is about 241,000 sq. miles.

II.—SURFACE.

1. *Seas and Gulfs*.—the Gulfs of Trieste, Quarnero, and Cattaro.
2. *Mountains*.—(1) The Carpathian Mts.; (2) the Transylvanian Alps; (3) the Illyrian Alps. The *highest peak in Austria* is Orteler Spitze (12,800 ft.)
3. *Plateaux*.—(1) the Bohemian plateau; (2) the Hungarian plateau; and (3) the Transylvanian plateau.

^{*} *Austria* derives its name from the fact of its having been the *eastern* part of the empire of Charlemagne. *Hungary* owes its name to the Huns.

4. *Plains*.—(1) the plain of Upper Hungary; (2) the plain of Lower Hungary.

III.—RIVERS AND LAKES.

On the N. W. Slope.—The Elbe, the Moldau, the Eger,—flowing into the North Sea; the Oder, the Vistula, the San,—flowing into the Baltic;

On the S. E. Slope.—The Etsch, the Isonzo,—falling into the Adriatic; the Danube, the Inn, the March, the Drave, the Save, the Theiss, and the Dniester,—falling into the Black Sea.

The largest lake is Lake Balaton, or Platten Sea, in Hungary.

IV.—CLIMATE.

The climate is healthy, though extremely varied. The north is cold, the south warm and genial, and the centre temperate and dry. The rainfall varies from 15 to 25 inches.

V.—PRODUCTS AND INDUSTRIES.

The chief *minerals* produced are coal, iron, silver, lead and zinc. The *agricultural* products include wheat, maize, rye, oats, barley, hemp, potatoes, hops, tobacco, and wine. The *manufactures* include woollen, cotton and iron goods, machinery, agricultural implements, glass, and silk.

VI.—PEOPLE.

The population is above 45 millions, or 190 to the square mile, and is very varied, consisting of—

- (1) *Teutons*, in the west and south-west;
- (2) *Germans*, scattered all about;
- (3) *Slavs*, which comprise half the population;

- (4) *Czechs*, in Bohemia ;
- (5) *Poles*, in Galicia ;
- (6) *Croats*, in Croatia and Dalmatia ;
- (7) *Italians*, in South Tyrol.

The *Magyars*, a distinct race, form about half the population of Hungary. The prevailing *religion* is Roman Catholicism.

VII.—TRADE AND COMMERCE.

- 1. *Imports*.—Raw cotton and wool, grain, coffee, and tobacco.
- 2. *Exports*.—Wheat, barley, timber, woollen goods, and sugar.

VIII.—GOVERNMENT AND TOWNS.

Austria and Hungary are independent of each other in matters of internal government, but the Emperor of Austria is always also king of Hungary. The *army*, which is one of the largest in Europe, is recruited by compulsory military service. The *navy*, which is a small one, is highly efficient. *Education* is rather backward, though there are famous universities at Vienna, Prague, and Budapest.

The chief towns are :—

- (1) Vienna, capital of the Empire ;
- (2) Budapest, capital of Hungary ;
- (3) Prague, capital of Bohemia ;
- (4) Trieste, the chief port of Austria ;
- (5) Lemberg, the largest town in Galicia ;
- (6) Cracow, the ancient capital of Poland ;
- (7) Gratz, capital of Styria ;
- (8) Laibach, capital of Carniola ;
- (9) Salsburg, on the borders of Bavaria ;
- (10) Pressburg, near the Austrian border ;
- (11) Brunn, capital of Moravia ;
- (12) Fiume, the port of Hungary.

IX.—FOREIGN POSSESSION.

Austro-Hungary has no foreign possessions, but since 1878 has ruled Bosnia, and Herzegovina, both of which are nominally Turkish provinces.

Questions.

1. Give the boundaries of the Austro-Hungarian monarchy, and state the origin of the names of the two countries.
2. Name (1) the chief plateaux, (2) the largest lake, (3) the principal rivers on the north-west slope, of Hungary.
3. What are the principal races inhabiting Austro-Hungary, and what parts of the country do they inhabit?
4. Describe the constitution of the Austro-Hungarian monarchy, and name six of the principal towns.
5. What and where are the following :—
The Isonzo, Quarnero, Orteler Spitze, Doiester, Fiume, Cracow.
6. Name the foreign possessions of Austro-Hungary.

(J.)—RUSSIA.

I.—POSITION AND EXTENT.

Russia occupies the eastern half of Europe. It is bounded on the *north* by the Arctic Ocean; on the *east* by the Ural Mts., the Ural river, and the Caspian; on the *south* by the Caucasus Mts., the Black Sea, Rumania and Austria; and on the *west* by Austria, Prussia, the Baltic Sea and Sweden. The area is nearly 2 million sq. miles. The total area of the Russian Empire is one sixth of the whole land surface of the globe.

II.—SEAS AND GULFS.

In the north—the White Sea.

In the west—the Baltic, with its arms, the Gulfs of Bothnia, Finland, and Riga :

In the south—the Black Sea, the Sea of Azov, and the Caspian.

III.—ISLANDS.

Osel, Dago, and Aland—in the Baltic Sea ;

Nova Zembla, Walgatz, and Spitzbergen—in the Arctic Ocean.

IV.—SURFACE.

Russia comprises a large portion of the Great Plain of Europe, and is, with a few exceptions, all flat. The principal *mountains* are :—

- (1) The Caucasus Mts., stretching from the Black Sea to the Caspian ;
- (2) The Ural Mts., on the Asiatic frontier ;
- (3) The Valdai Hills, in Western Russia.

The *largest area of land below sea-level* on the globe is in Russia, on the north-west coast of the Caspian.

V.—RIVERS AND LAKES.

- (1) The Petchora, falling into the Arctic Ocean ;
- (2) The Mezan, {
- (3) The Dwina, { falling into the White Sea ;
- (4) The Onega, {
- (5) The Neva, ,, ,, Gulf of Finland ;
- (6) The Duna, ,, ,, ,, Riga ;
- (7) The Niemen, {
- (8) The Vistula, { ,, ,, Black Sea ;
- (9) The Dniester, {
- (10) The Dnieper, { ,, ,, Black Sea ;
- (11) The Don {
- (12) The Kuma, {
- (13) The Volga, { falling into the Caspian.
- (14) The Ural, {

The most important *lakes* are :--

- (1) Lake Ladoga, the largest fresh-water lake in Europe ;
- (2) Lake Onega, between the White Sea and Ladoga ;
- (3) Lake Peipus, between the Gulf of Finland and Riga.

VI.—CLIMATE.

Russia experiences great differences of climate owing to its vast extent. The south is generally warm, the north cold, while in the centre the winters are long and severe and the summers short and oppressive. The *rainfall* is small, not averaging more than 15 to 20 inches, even on the Baltic shores where it is greatest.

VII.—PEOPLE.

The population of European Russia is $113\frac{3}{4}$ millions, or 61 to the square mile. The bulk belongs to the Slavonic race including the Poles and Lithuanians. Finns, Germans, and Jews are numerous in the west ; wandering Tartars and Mongolians are found in the south-east. The established *religion* is the Greek church. Slavery, in the form of *serfdom*, was common in Russia until 1861.

VIII.—PRODUCTS AND INDUSTRIES.

Minerals.—Gold, silver, copper, iron, coal and salt.

Vegetables.—Wheat, rye, flax, hemp, potatoes, and tobacco.

Manufactures.—Cloth, leather and cordage. Russian leather is thought to be the best in the world.

IX.—TRADE AND COMMERCE.

The *internal* trade of Russia is chiefly carried on at *fairs*, the largest of which is held at Nijni Novogorod.

1. *Imports*.—Raw cotton, metals, machinery. wool. tea. leather and textiles.

2. *Exports*.—Grain, flax, wood, oil, dairy produce, and eggs.

The chief ports of Russia are :—

Odessa, St. Petersburg, Riga, and Nikolayev.

X.—GOVERNMENT AND TOWNS.

The Government of Russia is a constitutional hereditary monarchy, but in fact the whole legislative, executive, and judicial power is united in the Emperor, whose official title is *the Czar (or Tsar) of all the Russias*. In 1905, however, an elective State Council (called the *Duma*) was created and a law passed giving to the people the foundations of public liberty based on freedom of conscience, speech, assembly, and association, and establishing a rule that no law shall come into effect without the approval of the Duma. The *army* is the largest in the world, and the *navy* too not inconsiderable.

The principal *towns* are :—

- (1) St. Petersburg, the capital, founded by Peter the Great in 1703 ;
- (2) Kronstadt, a strong fortress on the Gulf of Finland ;
- (3) Moscow, the old capital, in the centre of Russia ;
- (4) Warsaw, on the Vistula, once the capital of Poland ;
- (5) Archangel, on the White Sea ;
- (6) Riga, another seaport, on the Gulf of Riga ;
- (7) Wilna, in West Russia, the old capital of Lithuania ;
- (8) Nijni Novogorod, on the Volga, east of Moscow ;
- (9) Kazan, on the Volga ;
- (10) Tula, south of Moscow, noted for its iron manufactures ;
- (11) Kiev, on the Dnieper, the ancient capital of Russia ;
- (12) Odessa, on the Black Sea, the greatest commercial city in the south ;
- (13) Kherson, near the mouth of the Dnieper ;
- (14) Taganrog, near the mouth of the Don ;

- (15) Sebastopol, in the Crimea ;
- (16) Nikolaiev, the chief naval station in the Black Sea ;
- (17) Astrakhan, near the mouth of the Volga.

Questions.

1. What is the total area of the Russian Empire ? What part of Europe does it occupy ? Give its boundaries.
2. Name the seas that wash the coasts of Russia, and the islands that lie off it.
3. Describe the surface features of Russia, naming the principal mountains of the country.
4. Name the rivers of Russia that fall into the Black Sea. Can you name any of the lakes ?
5. What is the general character of the Russian climate ?
6. Give a short account of (1) the people, and (2) the products and industries of Russia.
7. Name the chief ports of European Russia, and mention the principal articles of export.
8. Describe the Government of Russia, and name six of the most important towns.
9. What and where are the following :—Waigatz, Riga, Dago, the Valdais, the Petchora, P'cipus, Tula, Nikolaiev, Kronstadt.

(K.)—SPAIN.

I.—POSITION AND EXTENT.

Spain* constitutes the larger portion of what was formerly called the Iberian Peninsula. It is bounded on the *north* by the Bay of Biscay and France, on the *east* and *south* by the Mediterranean, and on the *west* by Portugal and the Atlantic. The area is 198,000 sq. miles.

* The name Spain is derived from its old name of *Hispania*. It was also called *Iberia*.

II.—SURFACE AND COASTS.

1. *Capes*.—Penas, on the north-west ;
Finisterre, Roca, and St. Vincent, on the west ;
Trafalgar, Tarifa, and Gata, on the south.
2. *Seas and Gulfs*.—Bays of St. Sebastian and Santander.
on the north ;
Gulf of Vigo, on the west ;
Gulf of Cadiz, on the south.
3. *Islands*.—The Balearic Isles and Presidios, in the
Mediterranean ;
the Canary Islands, in the Atlantic ;
the Azores, and the Madeira Isles, in the
Atlantic.
4. *Mountains*.—(1) The Pyrenees, between France and
Spain ;
(2) the Cantabrian Mts., a continuation of
the Pyrenees, extending west to Cape
Finisterre ;
(3) the Castilian Mts., running through
the centre to Cape Roca ;
(4) the Toledo Mts., running through Por-
tugal to Cape St. Vincent ;
(5) The Sierra Morena, running parallel
to the Toledoes ;
(6) The Sierra Nevada, in the south ;
(7) The Iberian Mts., running from the
Cantabrians to the Mediterranean.

III.—RIVERS.

- | | | |
|-----------------------|---|---------------------------------|
| (1) The Minho, | } | falling into the Atlantic Ocean |
| (2) The Douro, | | |
| (3) The Tagus, | | |
| (4) The Guadiana, | | |
| (5) The Guadalquivir, | | |
| (6) The Segura, | } | falling into the Mediterranean |
| (7) The Ebro, | | |

IV.—CLIMATE.

Spain experiences great varieties of climate : on the north and west coasts it is humid and equable : in the centre it is excessively dry, and there are extremes of heat and cold ; the south and east coasts enjoy a sub-tropical climate tempered by sea breezes. Two very bad winds afflict parts of Spain,—the Solano, a hot wind from the south, and the Galezo, a north-west wind. The annual rainfall varies from 20 to 50 inches.

V.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—Gold, silver, iron, copper, lead, zinc, tin, coal, building stone, and marble.

2. *Vegetables*.—Wheat, maize, rice, barley, oats, and large varieties of excellent fruits (such as grapes, figs, dates, oranges, citrons, olives, bananas, melons, almonds, and nuts). Spain is famous for its wines.

3. *Manufactures*.—Machines, cotton and other textiles, tobacco, leather, (especially in Cordova) and paper.

VI.—PEOPLE.

The population is over 18½ millions, or 96 to the square mile and consists of (1) Spaniards *proper*, who form the bulk of the people ; (2) Basques ; (3) Morescoes, who are of Moorish origin and (4) Gipsies, a wandering people originally inhabitants of

Egypt. The *language* spoken is generally Spanish, but the Basques speak a language of their own. The prevailing *religion* is Roman Catholicism.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Cotton, coal, sugar, timber and machinery.
2. *Exports*.—Wine, lead, iron, copper, fruit, cork, and olive oil.

VIII.—GOVERNMENT AND TOWNS.

The *Government* is a limited monarchy. The *army* and *navy* are small. *Education* is poor.

The *chief towns* are :—

- (1) Madrid, the capital, in the centre ;
- (2) Barcelona, in the north-east, the chief manufacturing and commercial city ;
- (3) Valencia, }
- (4) Alicaant, } seaports on the Mediterranean ;
- (5) Malaga, }
- (6) Cadiz, a strongly-fortified city on the Mediterranean ;
- (7) Seville, the ancient capital, on the Guadalquivir ;
- (8) Cordova, the old capital of the Moors in Spain ;
- (9) Granada, in the south, anciently the capital of the Moors ;
- (10) Toledo, on the Tagus, formerly famous for its sword manufactures ;
- (11) Salamanca, the seat of an old university ;
- (12) Saragossa, on the Ebro ;
- (13) Corunna, }
- (14) Santander, } seaports on the Atlantic ;
- (15) Bilbao, }

- (16) Ferrol, a large naval station near Corunna ;
 - (17) Murcia, in the south-east, famed of its silks ;
 - (18) Valadolid, formerly capital of Castile ;
 - (19) Badajos,
 - (20) Talavera,
 - (21) Vittoria,
 - (22) Ciudad Rodrigo,
 - (23) Burgos,
- } famous in connection with the
Peninsular war ;
- (24) Gibraltar, a celebrated fortress in the south, belonging to the English.

IX.—FOREIGN POSSESSIONS.

- (1) A small portion of West Africa.
- (2) Fernando Po, and some other islands.

Formerly Spain possessed the whole of South America except Brazil.

Questions.

1. Describe the situation of the Iberian peninsula. Give the exact position of Spain in it.
 2. Describe briefly the surface features of Spain, and name the chief rivers.
 3. Give an account of the climate of Spain, and compare it with that of Portugal. What are the *Solano*, and the *Galezo* ?
 4. Name the characteristic products of Spain, and mention the chief articles of export and import.
 5. Name the various races that inhabit Spain.
 6. What is the Government of Spain ? Name any six of the most important Spanish towns and mention for what each is famous.
 7. What and where are the following :—
St. Vincent, the Sierra Morena, the Minho, the Azores, Roca, Salamanca, Valencia, and Toledo.
 8. Name the foreign Possessions of Spain.
-

(L.)—PORTUGAL.

I.—POSITION AND EXTENT.

Portugal is bounded on the *north* and *east* by Spain, and on the *south* and *west* by the Atlantic Ocean. The *area* is about 35,500 sq. miles.

II.—SURFACE.

The physical aspects of Portugal are in entire harmony with those of Spain, the great mountain ranges and rivers being only continuations of those of Spain. The mountains belonging exclusively to Portugal are a number of transverse ridges thrown off by the main ranges; the rivers belonging exclusively to Portugal are the Mondego, the Zezere, the Zetas, and the Vadao.

III.—CLIMATE.

The climate is more genial and equable, and the rainfall more abundant than that Spain.

IV.—PRODUCTS AND INDUSTRIES.

The wines of Portugal, especially *port*, and the fruits, especially grapes, oranges, lemons, and olives, are famous. Quicksilver, iron, copper, lead, and salt are the chief *minerals* produced. The chief *exports* are wine, cork, cattle and fish.

V.—PEOPLE.

The *population* is about $5\frac{1}{2}$ millions, or 152 to the square mile. The Portuguese are of mixed descent and resemble the Spaniards in language and customs, though a strong mutual dislike exists between the two nations.

VI.—GOVERNMENT AND TOWNS.

The government was a limited monarchy till 1910, when a republic was quietly set up. In early times Portugal formed part of Spain, but in 1139 A. D. it became a separate kingdom.

The *chief towns* are—

- (1) Lisbon, the capital, on the Tagus ;
- (2) Oporto, near the mouth of the Douro ;
- (3) Setubal, a seaport in the south ;
- (4) Coimbra, near the centre, the seat of the only university in Portugal.
- (5) Sines, in the south-east, famous as being the birth-place of Vasco de Gama.

VII.—FOREIGN POSSESSIONS.

- (1) The Azores, Madeira, and Cape de Verd Islands, in the Atlantic ;
- (2) Angola, the Congo Territory, and Mozambique, in Africa ;
- (3) Goa and some other settlements in India ;
- (4) Macao, in China ;
- (5) Part of Timor, in the Malay Archipelago.

Questions.

1. What part of the Iberian peninsula is occupied by Portugal ? Compare the physical features of Portugal with those of Spain,
2. Compare the climate of Portugal with that of Spain.
3. Mention the chief products and industries of Portugal, and describe the character of the people.
4. Describe the Government of Portugal and name four of the chief towns, mentioning anything of interest about them that may be known to you.
5. Give a list of the foreign possessions of Portugal.

(M.)—ITALY.

I.—POSITION AND EXTENT.

Italy is a narrow peninsula (shaped like a long boot) in the south of Europe. It is bounded on the *north* by Switzerland

and Austria : on the *east* by the Adriatic Sea ; on the *south* by the Mediterranean, and on the *west* by the Mediterranean and France. The *area* is about 110,500 square miles.

II.—COAST.

1. *Capes*.—Greco, on the north-east ; Spartivento, on the south-east ; Vaticano, on the west.
2. *Seas and Gulfs*.—(1) Gulf of Venice, on the east ;
 (2) Gulf of Taranto, on the south east ;
 (3) Gulfs of Polycastro and Salerno,
 the Bay of Naples, and the Gulf
 of Genoa, on the west.
3. *Straits*.—(1) Strait of Otranto, between Italy and Turkey ;
 (2) the Strait of Messina, between Italy and Sicily ; and (3) the
 Strait of Piombino, between Italy and the island of Elba.

III.—ISLANDS.

The islands of Italy (which come to more than a sixth part of the whole area of the country) may be divided into four groups—

- (1) *The Tuscan Group*, consisting of—Elba, Pianosa, Monte Cristo, and Giglio ;
- (2) *The Sardinian Group*, ,, Sardinia, Antioco, St. Pietro, Asianara and Caprera ;
- (3) *The Neapolitan Group*, ,, the Ponza Isles, Ischia, Procida, and Capri ;
- (4) *The Sicilian Group*, ,, Sicily, Pantellaria, the Ægades, and the Lipari Isles.

IV.—SURFACE.

1. *Mountains*.—(1) the Alps, which form the northern boundary of Italy.
 (2) the Apennines, stretching from the Alps to the southern extremity of Italy. They are divided into—
 (a) the Northern Apennines;
 (b) the Central Apennines;
 (c) the Southern Apennines;
2. *Plains*.—(1) Plain of Lombardy, sometimes called the “Garden of Europe”;
 (2) Plain of Tuscany, or “*the Maremma*”;
 (3) the Campagna of Rome;
 (4) Plain of Apulia, on the Adriatic coast;
 (5) the Campania, around Naples.
3. *Volcanoes*.—(1) Etna, in Sicily; (2) Vesuvius, near Naples;
 (3) Stromboli, in the Lipari Isles.

V.—RIVERS AND LAKES.

- | | | |
|-------------------|---|--|
| (1) the Brenta, | } | flowing down the eastern slope into the Adriatic; |
| (2) the Adige, | | |
| (3) the Po, | | |
| (4) the Pescara, | | |
| (5) the Arno, | } | flowing down the western slope into the Mediterranean. |
| (6) the Tiber, | | |
| (7) the Volturno, | | |

The chief lakes of Italy are :—

- (1) Garda, the largest, drained by the Mincio;
- (2) Como, drained by the Adda;
- (3) Maggiore, drained by the Ticino;
- (4) Bolsena, „ „ Marta;
- (5) Trasimene, in the Apennines.

VI.—CLIMATE.

The *climate* is extremely pleasant, and the country is famous for its clear air, its blue skies, and its beautiful scenery. The mountains and the sea temper the heat of the summer, and the cold of winter becomes excessive only occasionally and in the north. The only drawbacks are—(1) the *Sirocco*, a hot wind from Africa, (2) the *Tramontana*, a cold piercing wind from the Appenines, and (3) the deadly *malaria*, which creeps up from the maritime plains and the shores of the lakes.

VII.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—Sulphur and marble are the most important of minerals found in Italy, though some parts produce iron ore also.
2. *Vegetables*.—Wheat, maize, rice, the olive, vine, and mulberry are the chief vegetable productions.

Italy is second only to China as a *silk* producing country, and to France as a *wine*-producing country. Venetian *glass* is famous.

VIII.—PEOPLE.

The population is $23\frac{1}{2}$ millions, or 310 to the square mile. Italy is therefore one of the most densely populated countries in Europe. The Italians are a very mixed people, though chiefly descended from the ancient Romans, and are distinguished for their taste and elegance of manners. The national *religion* is Roman Catholicism.

IX.—TRADE AND COMMERCE.

1. *Imports*.—Raw cotton, coal, grain, hides, timber, machinery, wool, sugar and tobacco.

2, *Exports*.—Silk, wine, olive oil, fruit, sulphur, and marble.

The *principal ports* are :—Genoa, Naples, Leghorn, Messina, Palermo, and Venice.

X.—GOVERNMENT AND TOWNS.

The *government* is a limited monarchy. The *army* is recruited by compulsory military service, and the *navy* is powerful and effective.

The *chief towns* are :—

- (1) Rome, the most famous city of the world, the capital, on the Tiber ;
- (2) Naples, capital of Campania, on the Bay of Naples, and a university town ;
- (3) Milan, capital of Lombardy, north of the Po ;
- (4) Turin, capital of Piedmont, on the Po ;
- (5) Palermo, capital of Sicily ;
- (6) Genoa, capital of Liguria, on the Gulf of Genoa ;
- (7) Florence, capital of Tuscany, on the Arno, famous for its beautiful buildings and art treasures ;
- (8) Venice, the “ queen of the Adriatic ” and the chief commercial city of the world in the middle ages ;
- (9) Bologna, the seat of a university ;
- (10) Messina, on the east coast of Sicily ;
- (11) Catania, in Sicily ;
- (12) Syracuse, also in Sicily, and once famous in Greek history ;
- (13) Leghorn, the chief port of Tuscany ;
- (14) Padua, Verona, Ravenna, Modena, Pisa, Perugia, Ancona, and Parma, all historical towns.

IX.—FOREIGN POSSESSIONS.

- (1) A strip of N. E. Africa on the Red Sea ;
- (2) Italian Somaliland.

San Marino, the smallest republic in the world, is on the Northern Appenines.

Malta and Gozo, in the Mediterranean, belong to England. Both of them are rocky islands, but produce excellent fruit and flowers. Valetta is the capital. The Maltese language is a corrupt form of Arabic.

Questions.

1. Give as accurately as you can the boundaries of Italy.
2. Name from a sketch map the capes and inlets on the coast of Italy and its islands.
3. Describe the surface features of Italy, and name any volcanoes situated in the country.
4. Describe the climate of Italy, mentioning especially what you know of the *Sirocco* and the *Tramontana*.
5. Name the chief products and industries of Italy, and mention the chief articles of export and import.
6. Give a short account of the government of Italy, and name half-a-dozen of the chief towns, mentioning anything of interest in connection with each that may be known to you.
7. Name the foreign possessions of Italy.
8. What and where are the following :—San Marino, the "Queen of the Adriatic," Bolsena, The Voltorno, the Campagna, Monte Christo, Pantellaria, Spartivento, and Elba.

(N.)—GREECE.

I.—POSITION AND EXTENT.

Greece is bounded on the *north* by Turkey, on the *south* and *west* by the Mediterranean, and on the *east* by the Ægean Sea.

Modern Greece includes only the southern portion of Ancient Greece, which was so famous for literature, art, and philosophy.

II.—COASTS.

1. *Seas and Gulfs*.—Gulf of Athens, on the east ; and the Gulfs of Arcadia, Lepanto and Corinth, on the west.
2. *Islands*.—(1) The Ionian Isles (consisting of seven large islands, in the Ionian Sea, west of the mainland) ;
 (2) The Cyclades, east of the Morea ;
 (3) The Western Sporades, in the Gulf of Athens ;
 (4) Eubœa and the Northern Sporades, off the east coast of Northern Greece.

III.—SURFACE.

Rugged mountains, deep valleys, wooded hills, and small plains diversify the surface of Greece. The principal mountains are :—

- (1) Mt. Œta (containing the famous Pass of Thermopylæ in the east ;
- (2) Mt. Parnassus and Helicon, in northern Greece, believed anciently to be the abode of the gods ;
- (3) Mt. St. Elias (anciently called *Taygetus*) in the Morea.

The only Plain of any importance is the Plain of Marathon, on the north-east coast of Attica, the scene of the great battle between the Persians and Athenians in 490 B. C.

IV.—CLIMATE AND PRODUCTS.

Continental Greece enjoys a temperate and generally healthy climate. But the mountain districts are cold, while at Athens the heat is often excessive.

The country does not produce much grain, but in the warm valleys olives, wine, tobacco and fruit are abundantly produced. Mount Hymettus in Attica produces the finest honey and wax.

V.—PEOPLE.

The *population* is nearly $2\frac{1}{2}$ millions. The Greeks are a nation of seamen and traders; but they are also distinguished for learning and arts. They are a very mixed *race*, but they claim to be descended from the ancient Greeks. The Greek Church is the established *religion*.

VI.—IMPORTANT TOWNS.

- (1) Athens, the capital, with a fine harbour called the *Piræus*. It was the most famous city of the ancient Greek world, and the centre of its intellectual life.
- (2) Marathon, Salamis, Platœa, Lepanto, are all famous as scenes of battles;
- (3) Corinth, on the Gulf of Corinth;
- (4) Patras, in the north of the Peloponnesus, is an important seaport;
- (5) Nauplia, for sometime capital of modern Greece;
- (6) Argos, the most ancient city in Greece;
- (7) Sparta, formerly renowned, but now decayed;
- (8) Navarino, on the Mediterranean, famous as the scene of the defeat of the Turkish fleet;
- (9) Corfu and Zante, the largest towns in the Ionian Isles;
- (10) Syra, in the Cyclades, the chief trade centre in the Ægean Sea.

 Questions.

1. Give the boundaries of Greece. What part of Ancient Greece is included in the modern country of that name?
2. Name from the map the gulfs of Greece and the islands connected with the coast.
3. Describe the surface of Greece, and say what you know of the Plain of Marathon.

4. Describe the climate and products of Greece, and give a short account of the people.
5. Name six of the important towns of Greece, mentioning anything noteworthy about them that you may know of.
6. What and where are the following :—Helicon, the Cyclades, Lepanto, Corinthe, Corinth, Thermopylæ, Hymettus.

(O.)—TURKEY IN EUROPE.

I.—POSITION AND EXTENT.

Turkey in Europe is bounded on the *north* by Austria, Servia and Rumania ; on the *east* by the Black Sea ; on the *south* by the Archipelago and Greece ; and on the *west* by the Adriatic. The area is more than 65,000 square miles.

II.—COASTS.

1. *Straits*.—The Bosphorus or the Strait of Constantinople, on the east ; Hellespont or Dardanelles, on the south ; and Otranto on the north.
2. *Islands*.—Thesò and Lemnos, at the *head* of the Ægean Sea ; and Crete or Candia, at the *entrance* to that sea.

III.—SURFACE.

The surface is generally mountainous. In the north-east is a great flat tract which in extent ranks third among the plains of Europe.

1. Mountains.

- (1) The Transylvanian Alps, between Turkey and Austria ;
- (2) The Balkan Mountains, stretching over the country from east and west ;
- (3) Despoto Dag, branching south-east from the Balkans ;
- (4) The Dinaric Alps, running parallel to the Adriatic ;

(5) Mount Pindus, stretching southwards to Greece.

2. Plains—

- (1) The *Rumanian Plain*, which is the third, of the great plains of Europe ;
- (2) The *Macedonian Plain*, lying at the head of the Gulf of Salonica ;
- (3) The *Thracian Plain*, stretching from the Sea of Marmora to the Balkan Mountains ;
- (4) The *Plain of Thessaly*, enclosed by Mt. Pindus and other ranges.

These plains are among the most fertile districts in Europe.

IV.—RIVERS AND LAKES.

- (1) The Danube, flowing into the Black Sea ;
- (2) The Maritza, }
- (3) The Struma, } flowing into the Ægian Sea ;
- (4) The Salambria, }
- (5) The Baratino, }
- (6) The Boyana, } flowing into the Adriatic Sea.
- (7) The Narenta, }

The most important lakes are:—

- (1) Lake Rassein, the largest in Turkey, near the mouth of the Danube ;
- (2) Lake Scutari, near the Adriatic coast ;
- (3) Lake Ochrida, drained by the Black Drin ;
- (4) Lake Yanina, drained by the Kalamus.

V.—CLIMATE.

The general climate of Turkey is general and healthy. Large tracts, however, of low-lying land, both on the Danube and on the coasts of the various seas, are malarious. Owing to the mountainous character of the country, the temperature is lower than that of other countries on the same latitude.

3. Name the most important rivers and lakes of Turkey.
4. Describe the climate of Turkey. Why is the country colder than others in the same latitude?
5. Name the characteristic products and industries of European Turkey, and mention the chief articles of export and import.
6. What is the character of the Turkish government? Name any four of the chief towns of European Turkey.

(P.)—BULGARIA, CANDIA, SERVIA, RUMANIA AND MONTENEGRO.

1. BULGARIA.

Bulgaria occupies the Balkans and their northern slopes as far as the Danube, and comprises East Rumalia, south of the Balkans. It has an *area* of 38,000 sq. miles and a *population* of 4 millions. It is under the suzerainty of the Sultan of Turkey. The *chief towns* are:—

- (1) Sofia, the capital, towards the west;
- (2) Philippolis, on the Maritza, capital of East Rumalia;
- (3) Rustchuk, a trading city on the Danube;
- (4) Varna, the chief seaport on the Black Sea;
- (5) Trinova, the ancient capital, near the centre.

2. CANDIA.

Candia, anciently called Crete, is a large island to the south of the Grecian Archipelago, having now a separate government. Candia is the chief town.

3. SERVIA.

Servia is a small kingdom south of the Danube, between Bulgaria and Bosnia. It was formerly under the dominion of

Turkey. The *area* is about 18,000 sq. miles and the *population* about $2\frac{1}{2}$ millions. The capital is Belgrade, on the Danube.

4. RUMANIA.

Rumania lies between Russia on the north and east, Hungary on the west, and Bulgaria on the south. The chief *divisions* are :—

Moldavia on the north, and Wallachia on the south. The *area* is above 50,000 sq. miles.

The northern part is a plateau sloping south, the southern, a rich alluvial plain. The chief *river* is the Danube.

The *climate* is like that of all European countries of the east—the summers are hot and the winters extremely cold. The *rainfall* is small.

The *population* is 6 millions and belongs to the Romanic *race*.

The prevailing *religion* is the Greek church.

The *government* is a limited monarchy, and military service is compulsory.

The *chief towns* are :—

- (1) Bukharest, the capital, having a university ;
- (2) Jessy, the capital of Moldavia ;
- (3) Galatz, and (4) Braila, are the principal ports.

5. MONTENEGRO.

Montenegro* is a small principality in the Dinaric Alps. The *area* is 3,600 sq. miles and the *population* 250,000 The capital is Centinje.

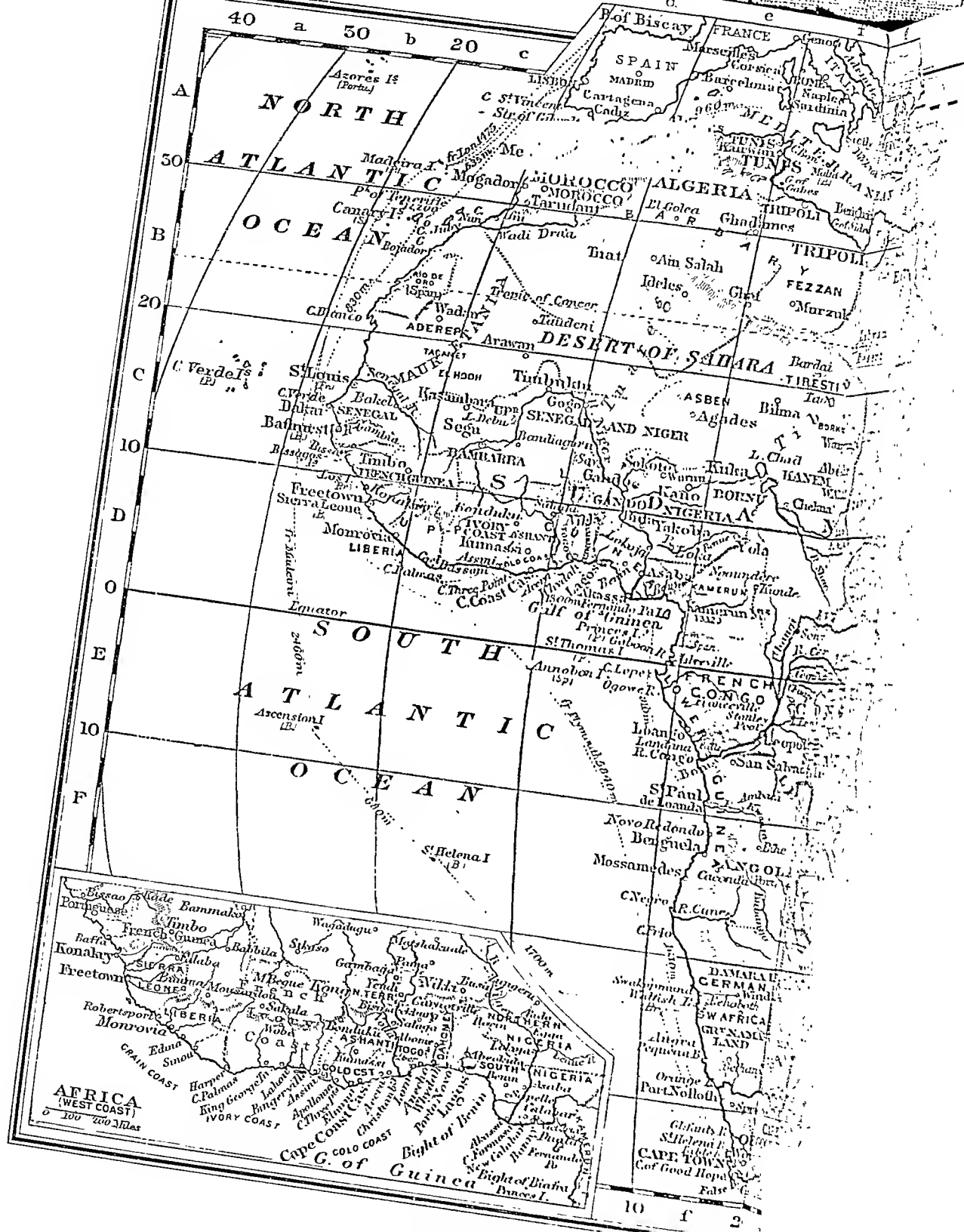
* Literally means 'Black mountains,' so called from its being covered with mountains.

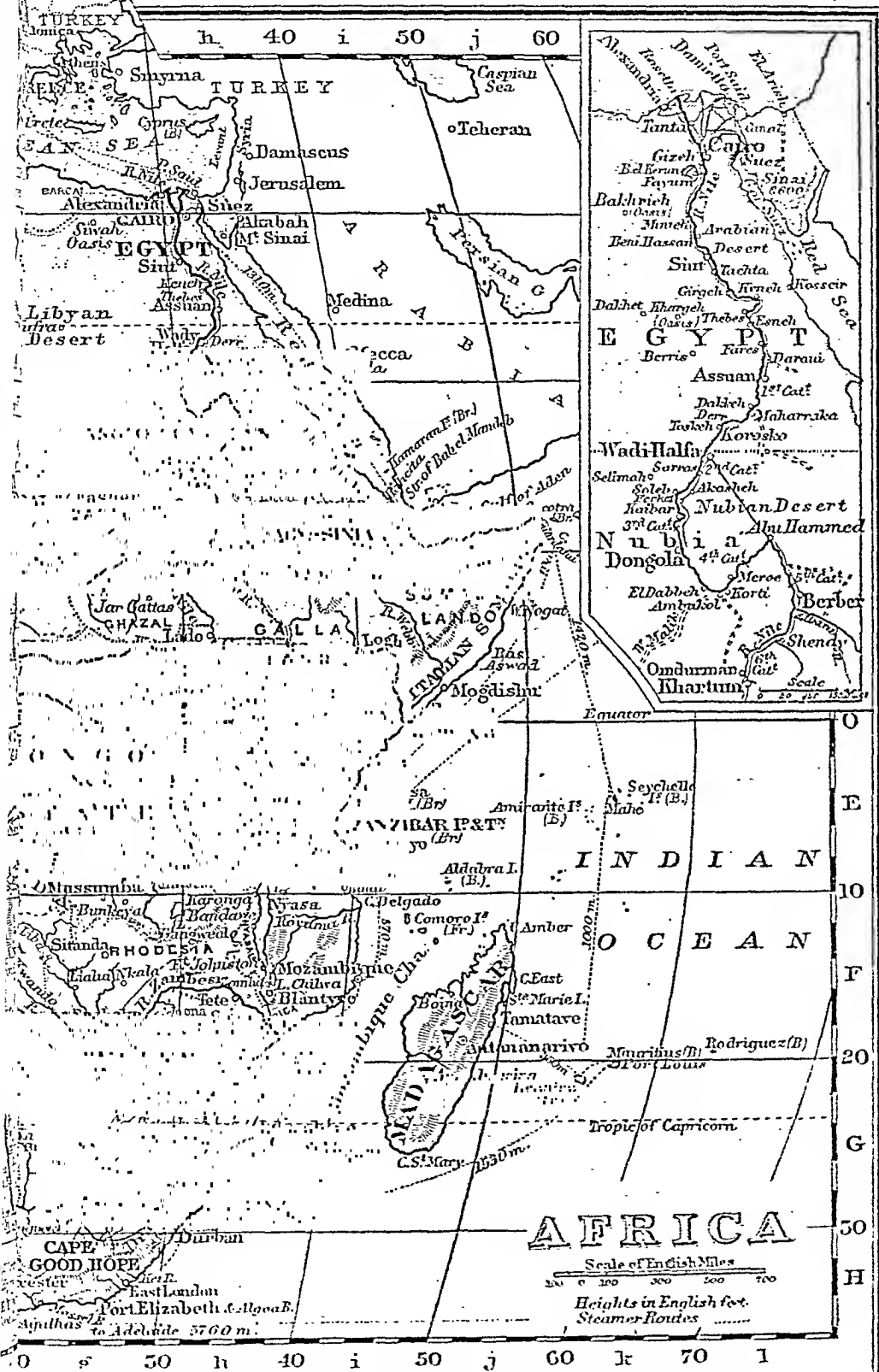
Questions.

1. Where is the Balkan peninsula ? Name the states that are situated in it.
 2. Give the geographical position of Bulgaria and name the chief towns.
 3. What and where is Candia ? What was the old name of it ?
 4. Give the geographical position of Servia and Rumania. Name anything of interest that you know of with regard to those two states.
 5. What and where is Montenegro, and why is it so called ?
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BOOK III.
AFRICA.







AFRICA.

I.—GENERAL CHARACTERISTICS.

- (1) Africa * is the most tropical continent.
- (2) It is the least civilized of the great divisions of the globe.
- (3) It is the most uniformly high continent.
- (4) It is most regular in form, the northern half rounding off and the southern half contracting and terminating in a point.
- (5) Its mountains are all paralled to the sea-coast and to one another.
- (6) Its coast-line is very little broken by bays or gulfs, and is therefore shorter, in proportion to its size, than that of any other continent.
- (7) It is the most isolated and inaccessible of all continents which is chiefly due to—
 - (a) the iron-bound character of the coast-line ;
 - (b) the want of navigable rivers ;
 - (c) the littoral situation of the mountain chains ;
 - (d) the vast expanses of desert between the coast and the interior ;
 - (e) the unhealthy climate.

For these reasons Africa is often called the “ Dark continent,” as also partly from its being inhabited by dark-skinned and savage races.

II.—BOUNDARIES.

Africa is bounded on the *north* by the Mediterranean ; on the *east* by the Red Sea and the Indian Ocean ; on the *south* by the Great Southern Ocean ; and on the *west* by the Atlantic.

* Africa' was originally the name of a small tract of the continent on the north coast, given by the Romans to the colony of Carthage; subsequently the name was applied to the whole continent.

The *northernmost* point is Cape Blanc or Ras-el-Abied ; the *easternmost*, Ras Hafun ; the *southernmost* Cape Agulhas ; and the *westernmost*, Cape Verde.

III.—SIZE AND SHAPE.

The greatest length from north to south is 5,000 miles, and the greatest breadth from east to west is almost the same. The total area is about 11,300,000 square miles. In shape it may be called a rough triangle.

IV.—COASTS.

The coast-line of Africa is remarkable for its unbroken character, and in this respect the continent resembles Australia and South America. This regularity of outline has had important results on the political development of the continent, and also on the climate ; it is at present a hindrance to the commercial progress of the land.

(1) SEAS AND GULFS.

On the north :—Gulf of Sidra and Gulf of Cades ;

On the east :—Bay of Aden and Delagoa Bay ;

On the south-east :—Algoa Bay ;

On the west :—Table Bay, Nazareth Bay and the Gulf of Guinea, which includes the Bights of Biafra and Benin.

(2) STRAITS AND CHANNELS.

(1) Straits of Babelmandeb, connecting the Bay of Aden with the Red Sea ;

(2) The Mozambique Channel, between the mainland and the island of Madagascar.

(3) CAPES.

On the north :—Cape Bon, Cape Blanco, Cape Ceuta (opposite Gibraltar,) and Cape Spartel ;

On the east—Cape Corrientes, Cape Delgado, Ras Hafun and Cape Guardafui ;

On the south—The Cape of Good Hope and Cape Agulhas ;

On the west—Cape Verde, Cape Palmas, Lopez and Cape Frio.

(4) ISLANDS.

The principal groups are :—

(1) Socotra, the Seychelles, Pemba, Zanzibar, the Comoro Islands and Madagascar—*off the east coast, in the Indian Ocean* ;

(2) St. Helena, Ascension—*in the South Atlantic* ;

(3) the Spanish islands Annobon and Fernando Po, and the Portuguese islands St. Thomas and Prince's Islands—*in the Gulf of Guinea* ;

(4) the Cape de Verd Islands, Canary Isles, Madeira and the Azores—*in the North Atlantic* ;

(5) Mauritius and Reunion—*in the India Ocean, east of Madagascar*.

V.—RELIEF.

The greater part of the surface consists of plateaux, almost uniform in elevation, but gradually rising towards the Equator. These plateaux are bounded by mountains, leaving a narrow strip of lowland near the coast. The average elevation of the southern half of the continent is about 4,000 feet, but towards the east, there is a depression, running north and south, within which the great African lakes are situated. Deserts occupy about one-third of the whole surface of Africa.

(1) MOUNTAINS.

(1) The Atlas mountains, in the north ;

(2) the Kong mountains, in Upper Guinea ;

- (3) the Lupata Range, west of Mozambique ;
- (3) the Abyssinian mountains, in Abyssinia ;
- (5) the Cameroons, north of the Bight of Biafra ;
- (6) Table mountain, in the south ;
- (7) the Nieuwveld Range, in the extreme south ;
- (8) the Drakensberg Mts., a continuation of the above northward.

The *highest peaks in Africa* are :—

- (a) Kilima Njaro (20,000 *ft.*), 200 miles west of Mombasa ;
- (b) Mt. Kenya (19,000 *ft.*) ;
- (c) Ruwenzori (18,000 *ft.*), south of Lake Albert Nyanza.

(2) PLATEAUX.

(1) The Northern Highlands, stretching north of Abyssinia, from the Gulf of Guinea to the Red Sea, with an average elevation of 2,000 feet ; they are divided into—

- (a) the Atlas Highlands ;
- (b) the Sahara ; and
- (c) the Sudan.

(2) the Southern Highlands, with an average elevation of over 2,000 feet, and divided into—

- (a) the East African Highlands ;
- (b) the Central Plateau ; and
- (c) the Southern Plateau.

(3) PLAINS AND DESERTS.

The plains of Africa are few in number and small in extent. The deserts however form the principal feature of Africa, so that the continent has hence been called “the land of deserts.” The chief deserts of Africa are—

(1) the Sahara Desert, in the north, 3,000 miles long, and with an area nearly equal to that of Europe—the largest desert in the world ;

(2) the Kalahari Desert, in the south, north of the Orange river.

VI.—RIVERS.

(1) The Nile, the largest river in Africa, flows northward into the Mediterranean ;

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|------------------------------------|---|--|
| (2) the Senegal, | } | flow westward into the Atlantic ; |
| (3) the Gambia, | | |
| (4) the Congo, | | |
| (5) the Orange River, | | |
| (6) the Niger, (and its tributary) | } | fall into the Gulf of Guinea ; |
| (7) the Chadda, | | |
| (8) the Zambesi, | } | flow eastward into the Atlantic Ocean. |
| (9) the Limpopo, | | |

Note on the Nile.—The Nile has a total course of 4,300 miles. It rises somewhere south of the Equator, and flows into Lake Victoria Nyanza, whence it travels north under the name of the *Somerset Nile*, till it reaches Lake Albert Nyanza, whence again it flows north, under the new name of the *White Nile*, receiving three tributaries, the *Bahr-el-Gazal*, the *Blue Nile*, and the *Atbara* (or the *Black Nile*). Then sweeping through Egypt it falls into the Mediterranean by a delta more than 8,000 sq. miles in area.

VII.—LAKES.

Lakes form a prominent feature of the African drainage system.

- | | | |
|---|---|--------------------------------------|
| (1) Victoria Nyanza, | } | belonging to the basin of the Nile ; |
| (2) Albert Nyanza, | | |
| (3) Bangweolo, belonging to the Congo basin ; | | |
| (4) Nyassa, belonging to the Zambesi basin ; | | |
| (5) Lake Chad, on the southern border of the Sahara ; | | |
| (6) Lake Tanganyika, near the source of the Congo ; | | |
| (7) Lake Ngami, north of the Kalahari desert ; | | |
| (8) Lake Rudolf, a smaller lake in the north-east. | | |

VIII.--CLIMATE.

Africa lies almost wholly within the tropics, and is therefore subject to an extremely high temperature. But the hottest parts are not about the equator itself, a belt on each side of which is well watered. There are in general only two seasons in Africa: the rainy season and the dry season. The portions around the Red Sea, and North Central Africa are among the hottest parts of the earth. The central parts, and especially the coasts, are very unhealthy, but the high plateaux in the interior are cooler and more healthy. Parts of the country are exposed to hot and pestilential winds, such as (1) the Hermattan, which sweeps the Guinea coast, (2) the Khamsin, the terror of Egypt, and (3) the Simoom, which blows over the Sahara.

IX.—PEOPLE.

1. *Population*.—The population of Africa is about 180 millions.

2. *Races*.—The bulk of the population belongs to the Negro race, which chiefly inhabits the Sudan. The Bantus inhabit the equatorial regions; and the Hottentots and Bushmen are found in the south. The north and east are peopled by *Arabs*, *Berbers*, *Egyptians*, *Galls*, and *Somalis*.

3. *Religions*.—(a) *Mohamedanism* is the chief religion of the whole of North Africa. (b) *Demon-worship* is the prevailing faith in the south. (c) *Christianity* is found in Egypt and Abyssinia.

X.—PRODUCTS.

1. *Minerals*—

(1) Gold is obtained in the bed of many rivers of Central Africa, as also in South Africa;

(2) Diamond is excessively mined near the southern desert;

(3) Silver, copper, iron, and land are found in many parts ;

(4) Salt is abundant in several parts of the continent.

2. *Vegetables*.—Much of the soil is unproductive, but is very fertile where well watered. *Wheat* and *barley* are the chief grains in the north. *Oranges*, *olives*, the *cotton* plant, and the *date-palm* are also found almost everywhere. In the west of Central Africa *maize*, *rice*, *plantains*, *sugar*, and *palm-oil* are the chief vegetable products. *Coffee* is chiefly grown in the east.

IX.—TRADE AND COMMERCE.

Africa is commercially the least important of the continents. which is due to—

- (1) its backward civilization,
- (2) the absence of good harbours,
- (3) the want of navigable rivers leading from the sea into the interior.

The chief *exports* are—Palm-oil, India-rubber, cotton, coffee, ebony, indigo, nuts and gums.

XII.—POLITICAL DIVISIONS.

- (A) North Africa, including (1) the four Barbary States of Morocco, Algeria, Tunis, and Tripoli ; (2) the Egyptian territories ; (3) the Sahara ; and (4) the Sudan.
- (B) West Africa, including Guinea and the Congo State.
- (C) South Africa, including British South Africa and German South west Africa.
- (D) East Africa, including (1) British Central Africa. (2) Portuguese East Africa, (3) German East Africa. (4) British East Africa, (6) Somaliland, (6) Abyssinia, and (7) Eritrea.
- (E) The African Islands.

XIII.—EUROPEAN POSSESSIONS IN AFRICA.

The only independent states in Africa are Morocco, Abyssinia, and Liberia, Nearly the whole of the rest has been divided among European powers.

(1) France has possessions in the north-west, the Congo basin, a part of Somaliland, and Madagascar. All these amount to nearly one-third of the whole continent.

(2) England has possessions in the north-east, and in the south. She also owns large territories in Guinea, and has Egyptian Sudan under her protection.

(3) Belgium owns the Congo State in the centre of the equatorial region.

(4) Germany, has possessions south of the equator, east and west, and also owns Cameroon and Togoland.

(6) Portugal owns a part of East Africa, Angola, a part of the Guinea coast, and the Cape Verde Islands.

(6) Turkey owns Tripoli and Fezzan.

(7) Italy possesses a part of Somaliland and Eritrea.

(8) Spain owns a portion of the Sahara, small settlements on the Morocco coast, the Canary Islands, and Fernando Po.

Questions.

1. Enumerate the reasons why Africa is the most isolated and inaccessible of all the continents. Why is it called the "dark" continent?
2. Describe the character of the coast-line and the surface of Africa.
3. Name the African islands which lie (1) in the Indian Ocean; (2) in the Atlantic.
4. Name four of the principal mountain ranges of Africa and the highest peaks.
5. Why has Africa been called the "land of deserts"? Name the two most important deserts of Africa, and give their position.
6. Give a full account of the course of the river Nile. Name the rivers of Africa which fall into the Atlantic Ocean.

7. What special names have been given to the hot and pestilential winds that blow in Africa? Describe briefly the character of the African climate.

8. Name the various races of mankind that inhabit Africa.

9. Mention the chief characteristic products of Africa, and name the principal articles of export and import.

10. Name the independent states of Africa, and give a list of the European possessions in that continent.

(A.)—NORTH AFRICA.

1. THE BARBARY STATES.

The Barbary States consist of a broad belt on the north coast, stretching from the Mediterranean on the *north*, to the Sahara on the *south*, and from Egypt on the *east* to the Atlantic Ocean on the *west*, and covering an area of over 900,000 sq. miles.

1. MOROCCO.—Morocco is the most fertile and populous of the Barbary States. The *area* is about 219,000 sq. miles.

The *surface* is mountainous, being traversed from north-east to south-west by spurs of the Atlas Mountains. The chief *rivers* are the Mulawia, flowing into the Mediterranean, and the Sebu, Draa, and others, flowing into the Atlantic. The *climate* is healthy and the *soil* fertile. The *products* include maize, dates, almonds, olives, beans and peas. The *population* is estimated at 5 millions. The *government* is despotic, the Sultan of Morocco being the chief of the state as well as the head of the religion. The chief towns are (1) Morocco, the capital; (2) Tangier, and (3) Mogadore, seaports on the west coast; and (4) Fez, a holy city in the east, famous for its caps.

2. ALGERIA.—Algeria is the largest and most important of the French colonial possessions. It lies to the east of Morocco

and its *area* is about 185,000 sq. miles. The *coast* is steep and rocky and lacks good harbours. The *surface* is mountainous, being traversed from east to west by the Great and Little Atlas ranges. There are large *lakes* in Algeria. The *products* include maize, rice, millet, dates, figs, olives, iron, lead and copper. The *population* is about 5 millions. The *chief towns* are (1) Algiers, the capital, on the Mediterranean; (2) Constantine, in the interior; (3) Bona, a seaport in the east; and (4) Oran, a seaport in the west.

8. TUNIS.—Tunis is the most northern and smallest of the Barbary States. The *area* is about 46,000 sq. miles. The *surface* forms three distinct regions—the “Tell,” or fertile coast slopes, the “Steppes” or the highlands, and the low plains of the Sahara. It has no *river* of importance, but it has a large *lake*, Lake Kairwan, on the border of the desert. The *climate* is generally healthy. The *population* is $1\frac{1}{2}$ million. The *chief exports* are olive oil, ores, sponges, cattle and grain. Tunis, the capital, is a large commercial city, and is the most important African port on the Mediterranean. The ruins of ancient Carthage are about ten miles from the city of Tunis.

4. TRIPOLI.—Tripoli (including Barca and Fezzan) stretches east along the coast from Tunis to Egypt. The *area* is about 350,000 square miles. The *coast* is deeply penetrated by the Gulf of Sidra, and has some fairly good harbours. The *surface* is varied, the *chief mountains* being the Gharian in the north-west, and the Black Mountain in the centre. The only *rivers* are periodical torrents. The *climate* is unhealthy, and generally extreme. The *chief products* are date, olives, grain, salt and sulphur. The *population* is 1 million, and consists of Arabs, Negroes, Turks, Berbers, Jews, and Tibbus. The *language* generally spoken is Arabic.

Questions.

1. What are the "Barbary States"? Name the kingdoms that are collectively called by that name.
2. Name the principal towns of Morocco, Algeria, Tunis and Tripoli.
3. What and where are the following :—The Mulawia, Fez, the Little Atlas, Constantine, the "Tell," Carthage, the Gharian, Barca and Fezzan.

2.—THE EGYPTIAN TERRITORIES.

1.—POSITION AND EXTENT.

Egypt is bounded on the *north* by the Mediterranean, on the *east* by the Red Sea, on the *south* by the Egyptian Sudan, and on the *west* by the Lybian Desert. The *area* is about 400,000 sq. miles.

II.—SURFACE.

A large part consists of barren deserts, interspersed by ranges of mountains and hills. The fertile districts are confined almost entirely to the narrow valley, and the Delta of the Nile. The principal *mountains* are :—

- (1) The Libyan Chain, between Egypt and the Sahara ;
- (2) The Arabian Chain, running parallel to the Red Sea.

The chief Deserts are :—

- (1) The Arabian Desert east of the Nile ;
- (2) The Nubian Desert between the Nile and the Red Sea.

III.—RIVERS.

The sole river of the region is the Nile, which is one of the largest rivers of the earth. The annual overflow of this river fertilises the country, so that Egypt has been called the "Gift of the Nile."

IV.—CLIMATE

The *climate* is tropical and dry, and the heat excessive. The *rainfall* is scanty, and the country is subject to a pestilential wind called the *Simoom*, which blows during April and May. But

the climate is, generally speaking, more healthy than that of many other tropical countries.

V.—PRODUCTS AND INDUSTRIES.

The chief products are wheat, millet, sugar, cotton, indigo, tobacco, dates, and flax. The only important *manufacture* is that of cigarettes.

VI.—TRADE AND COMMERCE.

The Suez Canal, completed in 1869, offers the chief route followed by ships going from Europe to Asia and Australia. The chief *imports* are cotton cloth, coal, and metals; the chief *exports* are cotton, beans, wheat and sugar.

VII.—PEOPLE.

The population is 10 millions, chiefly congregated over the Delta of the Nile. The inhabitants are mostly of Arab descent, and of the Mohamedan religion, the cultivators being called Fellahin. The descendants of the original inhabitants are called Kopts.

VIII.—GOVERNMENT AND TOWNS.

Egypt, though nominally subject to the Sultan, is practically under British control. The ruler of Egypt is called the Khedive, and he is assisted by a body of ministers. The *chief towns* are:—

(1) Cairo, the capital, is on the Nile, and it is the largest city in Africa. The *pyramids*, the most wonderful monuments of human labour, are situated a few miles south of Cairo.

(2) Alexandria, on the Mediterranean, is the chief seaport;

(3) Tintah, in the centre of the Nile Delta;

(4) Port Said, and Suez, are seaports at the northern and southern end of the Suez Canal;

(5) Assiut and Assuan are the chief towns of Upper Egypt.

Between these lie the grand ruins of the ancient city of Thebes and of the temples of Karnac and Luxor.

The Egyptian Sudan extends southwards to within a few hundred miles of the equator. It includes Nubia, Kardofan, Bhar-el-Ghazal, and Darfur. The surface chiefly consists of sandy deserts. The *climate* is dry and hot. The *people* are negroes.

The *chief towns* are :—

- (1) Khartum, the capital, on the Nile ;
- (2) Omdurman, the capital of the late Mahdi, near Khartum ;
- (3) Senaar, on the Blue Nile, formerly the capital of an independent kingdom ;
- (4) Fashoda, south of the White Nile ;
- (5) Suakin, the only port where pilgrims embark for Mecca.

3. THE SAHARA.

The Sahara, the greatest desert in the world, extends from the Atlantic on the west to the Nile valley on the east, and has an area of $1\frac{1}{2}$ million square miles, and a population of 800,000. The eastern part is often called the Libyan Desert. The Sahara forms a vast tableland, averaging about 1,500 feet in height, and contains several small mountain chains. The *rainfall* is very scanty, and the *climate* is extremely hot and dry. It is interspersed with oases, separated by long distances, and these oases are inhabited by Moors, Beduins, Berbers, and Tibbus. The trade across this desert is carried on by caravans, consisting of hundreds of camels and men.

4. SUDAN.

The Sudan, or the country of the Blacks, lies south of the Sahara, between Senegambia on the west and the Nile on the east. The *surface* consists of large plains, but the west and south are

hilly. The only river in this region is the Niger, which flows through the western parts of the country.

The *political divisions* of the Sudan are :—

- (1) Bambara, { on the Upper Niger ;
- (2) Timbuctoo, }
- (3) Gando, on the Lower Niger ;
- (4) Sokoto, east of Gando ;
- (5) Bornu, south-east of Lake Chad ;
- (6) Kanem, to the North ;
- (7) Wadai, to the east.

The *people* consist chiefly of negro tribes in a low state of civilization. The *chief towns* are :—

- (1) Sego, (2) Timbuctoo (3) Sokoto ; and (4) Kuka.

Questions.

1. Give the boundaries of Egypt, and describe the surface features of the country.
 2. Why has Egypt been called the "gift of the Nile" ? Give a short account of the climate of Egypt.
 3. Name the characteristic products of Egypt and the chief articles of export and import.
 4. Describe the government of Egypt and name some of the important towns.
 5. What part of Africa is called the Egyptian Sudan ? Name some of its chief towns.
 6. Give a short account of the Sahara Desert.
 7. Where is Sudan, and why is it so called ? Name the political divisions of the country, and its chief towns.
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(B.)—WEST AFRICA.

Western Africa extends southward from the Sahara to the Tropic of Capricorn. It includes (1) Spanish Africa and (2) Senegambia, in the north; (3) Upper Guinea, in the centre; and (4) Lower Guinea, in the south. The surface is in some parts mountainous and in others consists of lowland tracts. The chief *mountains* of this region are:—

- (1) the Kong mountains, between West Africa and the Sudan;
- (2) the Sierra Leone, near the coast;
- (3) the Cameroons, opposite the island of Fernando Po.

The Senegal, the Gambia, the Niger, and the Congo are the most important *rivers* of this region. The *climate* is very hot, and so unhealthy that the country has been called "the white man's grave." The *population* is almost wholly Negro. Fetishism and Mohamedanism are the prevailing *religions*, but Christianity is spreading.

1.—SPANISH AFRICA.

This includes part of the western coast from Morocco to Cape Blanco, and stretches inland up to the Sahara.*

2.—SENEGAMBIA.

Senegambia includes the countries watered by the Senegal and the Gambia. The greater part of it consists of the French settlement of Senegal, with its capital at St. Louis.

3.—UPPER GUINEA.

The principal divisions of Upper Guinea are—(1) Sierra Leone, (2) Liberia, (3) French Ivory Coast Colony, (4) English

* European nations holding the coast of Africa usually claim also the interior, called the *Hinterland*.

Gold Coast Colony, (5) German Togoland, (6) Dahomey, (7) Southern and Northern Nigeria, and (8) the German Cameroons.

1. **SIERRA LEONE.**—It is situated in the west, and is a British settlement founded in 1787. The capital is Free Town. *Area*, 4,000 sq. miles. *Population*, 76,000.

2. **LIBERIA.**—It is situated south-east of Sierra Leone, and is an independent negro republic established in 1847. The capital is Monrovia. *Area* 40,000 sq. miles. *Population*, about 2 million.

3. **IVORY COAST.**—It is situated east of Liberia, and contains the settlement of Cape Coast Castle and Elmina. The latter was purchased from the Dutch in 1871, and was the first European settlement in Upper Guinea. *Area*, 130,000 sq. miles. *Population*, 1 million. *Capital* Bingerville called Adjame, formerly.

4. **GOLD COAST.**—The British possession of Ashantee lies in the interior, north of the Gold Coast. The capital is Coomassie.

5. **TOGOLAND.**—Togoland is a small district east of the Gold Coast, belonging to Germany. *Area*, 33,700, sq. miles. *Population*, 1 million.

6. **DAHOMÉY.**—Dahomey is a native kingdom, to the east of Togoland. It was lately annexed by the French. The capital is Porto Novo. *Population*, 655,000.

7. **NIGERIA.**—Nigeria, Southern and Northern, extends inland from the coast to Lake Tchad. It includes the whole course of the lower Niger and that of the Benue. The chief military station is Lokaja. *Total area*, 411,000 sq. miles. *Population*, 20 millions.

4. LOWER GUINEA.

Lower Guinea comprises (1) French Congo, (2) the Congo Free State, and (3) the Portuguese Colony of Angola.

1. **FRENCH CONGO** lies between the German Cameroons and the Congo Free State. The Gaboon and Ogowai are the chief rivers.

2. **CONGO FREE STATE** comprises the greater part of the Congo basin, and extends inland to Lake Tanganyika. It is practically a possession of Belgium. The chief towns are Boma and Matadi.

3. **ANGOLA** lies south of the Congo Free State. The chief settlement is St. Paul de Loanda.

Questions.

1. Name the states that comprise West Africa.
2. Explain the term *Hinterland*, and name the principal divisions of Upper Guinea.
3. Where is Senegambia, and why is it so called?
4. What and where are the following:—

Ashantee; the Boma; the Gaboon; Togoland; Coomassie; Lokaja; St. Louis; Abomey.

(G.)—SOUTH AFRICA.

South Africa includes (1) German South-west Africa, (2) Cape Colony, (3) Natal, (4) the Orange River and Transvaal Colonies, (5) Bechuanaland, (6) Rhodesia, and some other divisions.

The *surface* is generally level in the middle, and mountainous on the south and east. The Nieuwveld, Sneuwbergen, and Drakenberg mountains extend along the south-eastern coast. The Orange River, or Garriep, flows westward into the Atlantic.

The *climate* is hot and dry in the north, healthy and temperate in the south. December and January are the hottest months, June and July the coldest. The tablelands, called *Karroos*, are very dry. The products are rich and various. Diamonds are found in the basin of the Orange river, and rich gold mines exist in the Transvaal. The *people* consist of various tribes, such as the Kaffirs, the Zulus, the Basutos, the Bechuanas, the Hottentots, and the Bushmen.

1. GERMAN SOUTH-WEST AFRICA lies between Angola and Cape Colony, and includes Damaraland and Great Namaqualand. Walfish Bay, the only harbour in the country, belongs to England.

2. CAPE COLONY * extends from the south coast to the Orange river, and has an area of 277,000 sq. miles, and population of $2\frac{1}{2}$ millions. It has been a British possession since 1806. The *surface* is uneven: the ground rises by degrees towards the Nieuwveld Mountains, which stretch across the colony from east to west; while on the north, arid plains slope towards the Orange river. The important *towns* are Cape Town, the capital, Constantia and Kimberley. Cape Town and Port Elizabeth are the two seaports.

3. NATAL † lies north-east of Cape Colony. It is a self-governing British colony formed in 1856. It has an area of 35,000 sq. miles and a population of just over one million. The capital is Petermaritzburg; Durban is the chief seaport; and Ladysmith the chief military station.

* The country takes its name from the Cape of Good Hope.

† The country was so called by Vasco de Gama, who discovered it on the day of the Nativity of Christ, or Christmas.

4. THE ORANGE RIVER COLONY AND THE TRANSVAAL are British territories. Till 1900 they were Republics under the suzerainty of England, but in 1902 they were conquered and annexed to the Empire. The chief town is Johannesburg, the centre of the gold mining industry.

5. BECHUANALAND is a British protectorate to the north of Cape Colony having an *area* of 275,000 sq. miles and a *population* of 133,000. The Government is carried on by native chiefs under the control of British Commissioners.

6. RHODESIA lies to the north of Bechuanaland, and is divided into two parts by the river Zambesi. The *area* is 300,000 sq. miles and the *population* 750,000. Southern Rhodesia contains large gold mines. The chief towns are Salisbury, Bulawayo, and Umtali.

7. BRITISH CENTRAL AFRICA lies north-east of Rhodesia and has an *area* of 50,000 sq. miles and a population of nearly a million. The chief town is Zomba.

Questions.

1. Name the states that comprise South Africa.
2. Give a short geographical account of Cape Colony and Natal. Why are the two countries so named?
3. What do you know of—(1) the Orange River Colony and the Transvaal; (2) Bechuanaland and (3) Rhodesia?
4. What and where are the following :—
The Sneuwbergen; the Gariep; Kimberley; Johannesburg; Zomba; Salisbury.

(D.)—EAST AFRICA.

East Africa includes the line of the coast extending from Zululand to the Straits of Babelmandeb. Nearly the whole of this tract is claimed by European nations.

1. Portugal claims the territory extending from Cape Delgado southward to Delagoa Bay. *Mozambique* and *Sofala* are the two chief divisions.

2. Germany claims the line of coast extending from the Rovuma river to near the island of Pemba. The principal seaports are *Dar-es-salam* and *Bagamoyo*.

3. England claims the line of coast extending from German East Africa to the river Juba. The chief station is *Mombasa*, British East Africa includes the protectorate of Uganda, north-west of Victoria Nyanza.

4. Italy claims a protectorate over a portion of Somaliland, (another portion being under England), and also, over the south-west coast of the Red Sea. The chief ports are *Assab*, and *Massowa*.

(E.)—THE AFRICAN ISLANDS.

The African islands, like the African mainland, are under the dominion of various European powers.

1. The Azores (*belonging to Portugal*) consist of a group of nine islands off the northern coast of Africa. They are very fertile and produce various fruits, wines, and tobacco.

2. Madeira (*belonging to Portugal*) lies east of Morocco. It produces wine, sugar, and fruits. The chief town is *Funchal*.

3. The Canaries (*belonging to Spain*) lie south of Madeira. The chief island of the group is *Tenereife*, containing the famous town *Sa Cruz*.

4. Cape Verd Islands (*belonging to Portugal*) lie to the west of Cape Verde. The capital is *Praia*.

5. Madagascar (*belonging to France*) lies to the east of the continent. It is traversed by mountains from north to south.

The highlands have a healthy and temperate climate, but the coast is unhealthy. The capital is Antananarivo, and the chief port Tamatave. The chief inhabitants are called *Horas* and are of Malay descent.

The *Comoro Islands* are a group midway between Madagascar and the mainland, lately annexed by France.

6. Bourbon or Reunion is an island belonging to France to the east of Madagascar.

7. Mauritius (*belonging to England*) lies due east of Madagascar. The chief export is sugar. The capital is *Port Louis*.

N. B.—The last two islands are the most important as regards commerce of all the African islands.

8. Socotra (*belonging to England*) lies east of Cape Guardafui.

Questions.

1. What part of Africa is generally known as East Africa?
 2. Name the European powers that possess territories in East Africa, and give the extent of each.
 3. Give a list of the African islands, and mention to what European power each belongs.
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BOOK IV.
NORTH AMERICA.

NORTH AMERICA.

I.—GENERAL CHARACTERISTICS.

North America* is the upper half of the New World, which is so called because it did not come under the general knowledge of geographers so soon as the Old World. The New World has three points of advantage as compared with the old :—

(1) it has none of those vast deserts which exist in Asia and Africa ;

(2) no part of its surface is so distant from the ocean as the central regions of Asia and Africa ;

(3) the interior of America is traversed, by mighty rivers, which afford great facilities to the inland districts for communicating with the sea. “The great physical features of America are its grand mountains, its grand tablelands, its grand prairies and plains, its grand forests, its grand islands, its grand rivers, its grand lakes, its grand waterfalls. Indeed, everything connected with America is grand. Its people are a grand people, and their enterprises are on a grand scale.”—(Currie).

II.—BOUNDARIES.

North America is bounded on the *north* by the Arctic Ocean and the Atlantic Ocean ; on the *east* by the Atlantic, the Gulf of Mexico, and the Carribean Sea ; on the *south* by South America ; and on the *west* by the Pacific Ocean.

The *northernmost* point is Point Marchison, the *southernmost*, Punta Puereos, the *easternmost*, Cape Charles, and the *westernmost*, Cape Prince of Wales.

III.—SIZE AND SHAPE.

The greatest length from north to south is over 4,000 miles and the greatest breadth from east to west is over 3,000 miles,

* America was so called from Amerigo Vespucci, who in 1497 A D. landed upon the continent south of the Equator.

The total area is about 8 million sq. miles. In *shape*, North America is a triangle.

IV.—COASTS.

North America (like Asia and Europe) has a large coast-line compared with its area. The east coast is washed towards the south by the warm Gulf Stream, and towards the north by the cold Arctic current.

(1) SEAS AND GULFS.

On the north:—Hudson Bay, Coronation Bay, Franklin Bay, and Mackenzie Bay.

On the east:—Gulf of St. Lawrence, Bay of Fundy, Massachusetts Bay, Chesapeake Bay, and the Gulf of Mexico.

On the west:—Gulf of California, Bristol Bay, and Norton Sound.

(2) STRAITS AND CHANNELS.

(1) Davis Strait, between Baffin Bay and the Atlantic ;

(2) Hudson Strait, connecting Hudson Bay with the Atlantic ;

(3) Strait of Belle-isle, between Labrador and Newfoundland ;

(4) Yucatan Channel, between the Gulf of Mexico and the Caribbean Sea ;

(5) Behring Strait, connecting America with Asia.

(3) CAPES.

Cape Farewell, south of Greenland ; Cape Race, south of Newfoundland ;

Cape Sable, south of Florida ; Prince of Wales Capet, Behring Strait.

(4) ISLANDS.

Off the north coast:—Southampton island, Fox Land, Baffin Land, Melville Island, Albert and Victoria Land.

Off the east coast:—Newfoundland, Anticosti, Prince Edward Island, Cape Breton Island, the Bermudas, the Bahamas, Hayti, Jamaica, Cuba, &c.

Off the west coast:—Yancouver Island Queen Charlotte Island, and Prince of Wales' Island.

V.—RELIEF.

North America is naturally divided into four regions:

(1) the Western Highlands—a system of mountain ranges and plateaux extending from Alaska to the south of Mexico;

(2) the Central Plain—occupying the middle of the continent from the Arctic Ocean to the Gulf of Mexico:

(3) the Eastern Highlands, divided into two parts by the St. Lawrence—

(a) the Laurentian Highlands, forming a curve round Hudson's Bay; and

(b) the Appalachian Highlands, extending from the Gulf of St. Lawrence nearly to the Gulf of Mexico;

(4) the Atlantic Coastal Plain—a strip of lowland between the Appalachian Mountains and the Atlantic Ocean, extending from the Gulf of St. Lawrence to Florida.

(1) MOUNTAINS.

(1) The Rocky Mountains, running through Canada and the United States—Highest peak, *Holy Cross*.

(2) The Cascade Range
(3) The Sierra Nevada } on the western border;

(4) The Alleghany Mountains, in the east.

The highest mountain in North America is Mount M'kinley (20,500 feet), in Alaska. Mount Logan and Mount St. Elias are volcanic peaks on the borders of Alaska.

Vocanoes :--

Orizaba, and Popocatepeti, in Mexico.

(2) PLATEAUX.

- (1) The Columbia Plateau, in the north of the United States ;
- (2) The Great Basin, stretching from the Rocky Mountains to the Cascade Range ;
- (3) The Colorado Plateau ;
- (4) The Mexican Plateau.

(3) PLAINS.

A high ridge runs across the continent at its widest part just north of the great lakes. The northern edge of it is called the "Height of Land," and the southern, the "Great Divide." This ridge divides the great central plain into two parts sloping towards the north and south. Different portions of this vast level region bear different names :--

- (1) The Northern Plain, which lies between the Arctic Ocean and the "Height of Land" ;
- (2) The Great Western Plain, which stretches south from the "Height of Land" to the Gulf of Mexico ;
- (3) The Prairies or Savannahs, which lie chiefly in the middle and lower valleys of the Mississippi ;
- (4) The Plains of the Mississippi, which lie in the lower valley of that river.

VI.—RIVERS.

- | | | |
|---|---|---|
| (1) The Colvillo, | } | flowing into the Arctic Ocean. |
| (2) The Mackenzie, | | |
| (3) The Great Fish River | | |
| (4) The Saskatchewan or the Nelson, | } | flowing into Hud-
son Bay. |
| (5) The Churchill, | | |
| (6) The Severn, | | |
| (7) The St. Lawrence flows into the Atlantic Ocean. | | |
| (8) The Mississippi, | } | falling into the Gulf of Mexico. |
| (9) The Rio Grande, | | |
| (10) The Colorado falls into the Pacific. | | |
| (11) The Columbia, | } | flowing into the Gulf of Cali-
fornia. |
| (12) The Fraser River, | | |
| (13) The Yukon, | | |

VII.—LAKES.

The large lakes of North America contain more than half the fresh water of the globe, so that N. America may rightly be called "the Continent of Lakes." These lakes appear in three groups:—

(a) *Five lakes in the basin of the St. Lawrence:—*

- (1) Lake Superior, the largest fresh-water lake in the world ;
- (2) Lake Michigan, S. E. of Superior ;
- (3) Lake Huron, N. W. of Michigan ;
- (4) Lake Erie, S. E. of Huron ;
- (5) Lake Ontario, N. E. of Erie.

(b) *Three lakes in the basin of the Mackenzie—*

- (6) The Great Bear Lake, drained by the Bear river ;
- (7) The Great Slave Lake, south of the Great Bear ;
- (8) Athabasca Lake, S. W. of the Great Slave.

(c) *Smaller lakes in the basin of the Nelson—*

(9) Lake Winnipeg, and some smaller lakes.

N. B.—The **Falls of Niagara** lie between Lakes Erie and Ontario. They are formed by the sudden leap of the river over a vast ledge of rock into an abyss below. They are 1800 feet broad and 154 ft. in perpendicular depth.

VIII.—CLIMATE.

As N. America stretches from within the Frigid Zone to far within the Torrid Zone, its climate is naturally much varied. But the normal condition of the climate is everywhere modified (1) by the vast adjacent ocean, (2) by the position of the highlands, and (3) by the enormous accumulations of ice on the Arctic shores ; so that in N. America it is colder and wetter than in the corresponding latitudes of the Old World. There are also great local varieties of climate produced by special agencies, *e g.*, the Arctic winds from the north, the tropical winds from the south, the warm sea current on the west shore, and the cold one on the east.

The *rainfall* is heaviest on the coast of the Gulf of Mexico. The eastern half of the continent has a fair supply of rain, but there are large desert tracts west of the Rocky Mountains.

IX.—PEOPLE.

The population of N. America is about 100 millions. The original inhabitants of America, called American Indians or Red Indians, are dying out, and European settlers forming the bulk of the population. Negroes from Africa are numerous in the south. On the Pacific coast there are many Chinese.

The Protestant religion prevails in the United States ; the Roman Catholic, from Mexico southwards.

X.—PRODUCTS.

North America is rich in *minerals*. Gold, silver, and lead are found in the western highlands ; coal, iron, and petroleum

in the east. Copper is plentiful near Lake Superior. The *vegetable* products include maize, wheat, oats, tobacco, cotton, sugar and potatoes. The mahogany and logwood are valuable trees found in the south.

XI.—TRADE AND COMMERCE.

1. *Imports*.—Manufactured goods, tea, sugar, coffee, tin, and some other metals.

2. *Exports*.—Food stuffs, forest produce, and raw material for manufactures.

XII.—POLITICAL DIVISIONS.

(1) Greenland, (2) Canada, (4) Newfoundland, (7) the United States, (5) Mexico, (6) Central America and (7) the West Indies.

Questions.

1. Enumerate the most striking geographical features of North America. Give the origin of the name America.
2. Describe the coast line and surface features of North America.
3. Name (1) the highest mountain, (2) the largest islands, (3) the northernmost cape, of North America.
4. What are the "Height of Land" and the "Great Divide"?
5. Name the principal rivers of North America falling into the Gulf of Mexico. Name also *five* of the most important lakes.
6. Describe briefly the climate of North America, and give a short account of the chief products and the principal articles of export and import.
7. Name the political divisions of North America.

(A.)—GREENLAND.

Greenland,* the largest island in the world, extends from lat. 60° N. to within a few degrees of the North Pole. The total area is 46,000 sq. miles, and the population about 12,000. It is a

* So called from the green moss growing on its shores.

rocky, desolate country, mostly covered with perpetual ice. There are a few Danish settlers on the south-west coast, but the inhabitants are chiefly savages called Eskimo, who live by fishing.

(B.)—CANADA.

I.—POSITION AND EXTENT.

Canada is bounded on the *north* by the Arctic regions, on the *east* by the Atlantic, on the *south* by the United State, and on the *west* by the Pacific. The total area is 3,600,000 sq. miles.

II.—SURFACE.

Canada is mountainous in the west, level towards the centre, and hilly in the east. The *mountains* of Canada belong to the Rocky Range and the Canada Range. The best known of them are Mounts Murchison, Hooker, and Forbes, belonging to the former system, and Mount St. Elias, and Mount Logan, belonging to the latter system.

III.—RIVERS AND LAKES.

The Churchill, the Nelson, the Severn, the Albany, the Moose, the Rupert,—flowing into Hudson Bay ;

the St. Lawrence, with its tributaries the Ottawa, the St. Maurice, and the Saguenay, the Richelieu, and St. John—flowing into the Atlantic Ocean.

Canada possesses the largest *lakes* in the world. These are :—

- (1) Lake Superior, 32,000 sq. miles in area, and 600 feet in depth ;

- (2) Lake Huron, 20,400 sq. miles in area, and 900 feet in depth;
- (3) Lake Erie, 12,000 sq. miles in area, and 200 ft. in depth;
- (4) Lake Ontario, 6,600 sq. miles in area, and 500 ft. in depth.

IV.—CLIMATE.

The climate is subject to extremes both of heat and cold, but is generally speaking, salubrious. It is warmer and drier on the Pacific coast.

V.—PEOPLE.

The *population* is about 5,371,000 and the people are mostly of British descent, except in Quebec, where they are descended from French settlers. The aboriginal inhabitants are very few (some 100,000) and are scattered over the north-west.

IV.—PRODUCTS.

1. *Minerals*.—Gold, silver, lead, coal, petroleum, iron, copper and nickel.
2. *Vegetables, &c.*—Maize, melons, tomatoes, grapes, tobacco, &c.

Canada is famous for its furs obtained from fur-bearing animals like the bear, beaver, otter, fox, &c.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Iron and steel, woollen and cotton goods, silk, tea, coffee, sugar and wine.
2. *Exports*.—Timber, wheat, cattle, fish, coal, furs, silver and gold.

VIII.—GOVERNMENT AND TOWNS.

The Dominion of Canada is governed by a Governor-general appointed by the king of England ; and he is assisted by a Council and a parliament. Each province is under a Lieutenant-Governor and has a local legislature.

No.	Provinces.	Capitals.	Other Towns.
1.	Ontario (or Upper or West Canada).	Toronto ...	Ottawa, Hamilton, Kingston.
2.	Quebec (or Lower or East Canada).	Quebec. ...	Montreal.
3.	New Brunswick ...	Fredrickton ...	St. John. St. Andrews.
4.	Nova Scotia ...	Halifax ...	Pictou, Yarmouth, Sydney.
5.	British Columbia. ...	Victoria ...	Hope, Yale.
6.	Prince Edward Island ...	Charlotte Town	George Town.
7.	Manitoba (formerly, Red River Settlement).	Winnipeg ...	..
8.	North West Territory ...	Regina ...	Calgary.

Questions.

1. What and where is Greenland, and why is it so called ?
2. Give the boundaries of Canada, and name its provinces with their chief towns.
3. Name the principal rivers and lakes of Canada, and describe its climate and people.
4. Mention the chief products of Canada and name the principal articles of export and import.

(C.)—NEWFOUNDLAND.

Newfoundland is a large irregularly-shaped island in the Atlantic Ocean, and separated from Labrador by the strait of

Belleisle. The *area* is estimated at 40,000 sq. miles, and the population in December 1908 was 233,012. The *climate*, though cold, is less extreme than that of the mainland. The importance of the island derives from its cod-fisheries, which are carried on chiefly in a shallow stretch of sea known as "the Great Banks of Newfoundland."

Newfoundland is the oldest British colony, having been obtained by England in 1583. The capital is St. John's which stands at the head of a fine harbour. Other towns are Harbour Grace, Carbonear, Twillingate, and Boravista.

(D.)—THE UNITED STATES.

I.—POSITION AND EXTENT.

The United States are bounded on the *north* by the Dominion of Canada, on the *east* by the Atlantic, on the *south* by the Gulf of Mexico and Mexico, and on the *west* by the Pacific Ocean. The *area* is about $3\frac{1}{2}$ million sq. miles.

II.—SEAS, GULFS AND CAPES.

- (a) *Seas and Gulfs*.—Boston Bay, Delaware Bay, Chesapeake Bay, on the *east*; the Gulf of Mexico, on the *south*; the Bay of San Francisco, on the *west*.
- (b) *Capes*.—Capes Cod, May, Hatteras, Florida, on the *east*; Capes Sable, St. Blas, and Romeno, on the *south*; Capes Concepcion and Flattery, on the *west*.

III.—SURFACE.

The surface of the United State is mountainous in the west and east. Between these lies the vast plain of the Mississippi. The whole surface of the United States is usually divided into five great sections:—(1) the Atlantic Slope, (2) the Central Plain, (3)

the Western Plateau, (4) the Pacific Slope, and (5) the region of Alaska.

The chief *mountains* running through the United States are :—

- (1) the Rocky Mountains, which run throughout the States from North to South ; Highest peaks—Long's Peak and Pike's Peak, both exceeding 14,000 feet.
- (2) the Cascade Range, which culminates in Mount Hood ;
- (3) the Californian Coast Range, which runs from Mount Shasta in the north, to Mount Pinos in the south ;
- (4) the Sierra Nevada, which culminates in Mount Whitney—the loftiest peak in the United States, nearly 15,000 feet in height ;
- (5) the Alleghany or Appalachian Range, which runs parallel to the East coast ; Highest peak—the Black Dome, 6,700 feet ;
- (6) the Cumberland Range, lying west of the Alleghany Mts.

IV.—RIVERS AND LAKES.

The Hudson, Delaware, Sesquehanna, Roanoke, Potomac, Savannah, Merrimac, Connecticut, Delaware and James River, flowing down the south-eastern slope into the Atlantic ;

The Pearl River, Mississippi, Colorado, Rio Grande, flowing down the southern slope into the Gulf of Mexico ;

The Sacramento and the Columbia, flowing down the south-western slope into the Pacific Ocean.

The chief *lakes* are :—

- (1) The Great Salt Lake ; (2) Michigan ; (3) Champlain ; and (4) Wenham Lake.

V.—CLIMATE.

The climate is cold in the north, temperate in the centre, and warm in the south. The swampy districts of the Mississippi and certain low-lying regions on the coasts of the Gulf of Mexico and the Atlantic have a malarious and unhealthy climate ; but that of the States in general is healthy. Parts of the Mississippi basin are subject to sudden “ *tornadoes* ” and violent cold winds called “ *blizzards*.”

VI.—PEOPLE.

The population is about $76\frac{1}{3}$ millions, or 21 per square mile, and is constantly increasing. Of these about 60 millions are of European descent ; about 8 millions are negroes ; and the rest Americans, Indians and Chinese. The inhabitants of the United States are distinguished for energy and business enterprise.

VII.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—Gold, silver, coal, iron, copper, lead, zinc, quicksilver, and petroleum.

2. *Vegetables*.—Maize, wheat, oats, cotton, tobacco, sugar, fruit, and wines.

The *Manufactures* of the United States now exceed those of England, and in fact of any European country.

VIII.—TRADE AND COMMERCE.

1. *Imports*.—Silk, cotton, woollen goods, coffee, and sugar.

2. *Exports*.—Wheat, cotton, meat and dairy produce, iron and steel goods, petroleum, and tobacco.

IX.—GOVERNMENT AND TOWNS.

The Government is a Federal Republic, consisting of a President, a Senate and a House of Representatives. Each of the 46 States and 4 Territories enjoys local self-government. The states and territories composing the United States may be grouped as follows :—

I.—North Atlantic Division.
(9 States.)

No.	Name of State or Territory.	Important Towns.	Famous for.
1.	Maine ...	Augusta ; Portland.	
2.	New Hampshire ..	Concord ; Manchester.	
3.	Vermont ...	Montpelier ; Burlington ...	Named after the Green Mountains.
4.	Massachusetts ...	Boston ; Cambridge ; Worcester ; Lovell.	Its schools.
5.	Rhode Island ...	Providence ; Newport ...	Its being the smallest state.
6.	Connecticut ...	Hartford ; New Haven.	
7.	New York ...	Albany ; New York ; Brooklyn ; Buffalo.	Extensive commerce.
8.	New Jersey ...	Trenton ; Newark ; Jersey city.	
9.	Pennsylvania ...	Harrisburg ; Philadelphia ; Pittsburg.	Iron, coal, and kerosine oil.

II.—South Atlantic Division.
(9 States.)

No.	Name of State or Territory.	Important Towns.	Famous for.
10.	Delaware ...	Dover ; Wilmington.	
11.	Maryland ...	Annapolis ; Baltimore ...	Named after Queen of Charles I.
12.	D. of Columbia (a federal district only).	Washington ; George Town.	

No.	Name of State or Territory.	Important Towns.	Famous for.
13.	Virginia ...	Richmond ; Norfolk ...	First settled by Sir Walter Raleigh.
14.	West Virginia ...	Charleston ; Wheeling.	
15.	North Carolina ...	Raleigh ; Wilmington ...	Tar and pitch.
16.	South Carolina ...	Columbia ; Charleston ...	Rice.
17.	Georgia ...	Atlanta ; Augusta ; Savannah	Named after George II.
18.	Florida ...	Tallahassu ; St. Augustine ; Key West.	So called on account of its beautiful flowers.

III.—North Central Division.
(12 States.)

No.	Name of State or Territory.	Important towns.	Famous for.
19.	Ohio ...	Columbus ; Cincinnati ; Cleveland.	Its wealth and population.
20.	Indiana ...	Indianapolis ; Evansville ...	Wheat cultivation.
21.	Illinois ...	Springfield ; Chicago ...	Its prairies.
22.	Michigan ...	Lansing ; Detroit ...	Copper.
23.	Wisconsin ...	Madison ; Milwaukee ...	
24.	Minnesota ...	St. Paul ; Minneapolis ...	Wheat cultivation.
25.	Iowa ...	Des Moines ; Sioux city ...	
26.	Missouri ...	Jefferson city ; St. Louis ; Kansas.	Iron and coal.

No.	Name of State or Territory.	Important Towns.	Famous for.
27.	North Dakota ...	Bismarck ; Fargo ...	Wheat cultivation.
28.	South Dakota ...	Yankton ; Sioux Falls ...	Do.
29.	Nebraska ...	Lincoln ; Omaha ...	Do.
30.	Kansas ...	Topeka ...	Do.

IV.—South Central Division.

(9 States.)

No.	Name of State or Territory.	Important Towns.	Famous for.
31.	Kentucky ...	Frankfort ; Louisville ...	Its caves.
32.	Tennessee ...	Nashville ; Memphis ...	
33.	Alabama ...	Montgomery ; Mobile ...	Cotton cultivation.
34.	Mississippi ...	Jackson ; Natchez ; Vicksburg.	Do.
35.	Louisiana ...	Baton Rouge ; New Orleans.	Sugar cultivation.
36.	Texas ...	Austin ; Galveston ...	
37.	Oklahoma ...		
38.	Indian Territory ...		
39.	Arkansas ...	Little Rock ...	

V.—Western Division.

(11 States.)

No.	Name of State or Territory.	Important Towns.	Famous for.
40.	Montana ..	Helena	
41.	Wyoming ...	Cheyenna ; Laramia city ...	
42.	Colorado ...	Denver	Gold and Silver mines.
43.	California ...	Sacramento ; San Francisco ; Los. Angeles.	Do.
44.	Nevada ...	Carson city	Do.
45.	New Mexico (<i>Ter.</i>)		
46.	Arizona (<i>Ter.</i>)		
47.	Utah		Great Salt Lake.
48.	Idaho... ..	Boise city.	
49.	Washington ...	Olympia ; Seattle ; Tacoma.	Its seaport.
50.	Oregon ..	Salem ; Portland ...	Do.

The *important towns* of the United States are :—

- (1) Washington, the capital, and one of the most handsome cities in the world. The city is named after George Washington, the first President of the United States.
- (2) New York, the largest city in America and the second commercial city in the world.
- (3) Philadelphia, the second manufacturing town, is the capital of Pennsylvania, and is so called ('the city of brotherly love') because the colony was originally colonised by the Society of Friends or Quakers.

- (4) Boston, an important seaport. It is sometimes called the 'American Athens' on account of its literary activity.
- (5) Chicago, the greatest railway centre and greatest grain market in the world.
- (6) New Orleans, the chief cotton port.
- (7) Pittsburg, the centre of the iron and glass industries, and hence called the 'Birmingham of the States.'
- (8) San Francisco, an important seaport, and often called the 'Queen of the Pacific'.
- (9) St. Louis, near the confluence of the Missouri and the Mississippi, has large sugar refineries, flour-mills, and iron foundries.
- (10) Charleston, in South Carolina, has large seaports of cotton and rice.
- (11) Baltimore, near the head of Chesapeake Bay, is a great centre of grain, cotton, and tobacco trade.
- (12) Richmond, on James river, is the capital of Virginia.
- (13) Cincinnati, on the Ohio.
- (14) Cleveland, on the southern shore of lake Erie, has iron manufactures and a large trade in coal and petroleum.

Questions.

1. Where is Newfoundland, and for what is it famous ?
2. Give the boundaries of the United States.
3. Describe the surface features of the United States, naming the chief mountains running through the country.
4. Describe (1) the climate, and (2) the people, of the United States.
5. Name the chief products and manufactures of the United States, and the chief articles of export and import.
6. Describe the government of the United States, and name any six of the important towns.

7. What towns have been named—'the city of brotherly love', 'the Queen of the Pacific', 'the Birmingham of the States', 'the American Athens'?

8. Name any six of the important towns of the United States, and mention for what they are famous.

9. Give the names of any ten of the States that compose the United States Republic, mentioning the important towns they contain, and anything for which they may be famous.

(E.)—MEXICO.

I.—POSITION AND EXTENT.

Mexico* is bounded on the *north* by the United States, on the *east* by the United States and the Gulf of Mexico, on the *south* by Central America, and on the *west* by the Pacific Ocean. The area is 767,000 sq. miles.

II.—SURFACE.

The interior of Mexico is a great tableland. The high peaks—Popocatepeti, Orizaba, Colima, and Tuxtla—are all in Mexico. There are no large rivers, the chief one being the Rio Grande.

III.—CLIMATE.

Mexico has great varieties of climate. The tableland is cold, the slopes of the tableland, temperate, and the coasts, warm and tropical.

IV.—PRODUCTS.

Mexico is the richest country as regards *mineral* wealth. Silver and gold are very abundant. The principal *agricultural* products are coffee, cotton, sugar, tobacco, &c. The manufactures are few and unimportant.

* Mexico is so named from *Mexitli*, the god of war of the Aztee, a native race that dwelt in Mexico before the Spanish conquest.

V.—PEOPLE.

The population is over $13\frac{1}{2}$ millions. About 20 per cent. are *Creoles*, or Europeans of Spanish descent, 40 per cent. American Indians, and the rest are of a mixed race (called *Mestizos*.)

IV.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, iron, and machinery.
2. *Exports*.—Silver, coffee, gold, cattle, tobacco, hides, &c.

VII.—GOVERNMENT AND TOWNS.

The government is a federal republic like that of the United States. The chief towns are :—

- (1) Mexico, the capital, (2) Puebla, (3) Leon, (4) Guadalajara, (5) Queretaro, (6) Vera Cruz, and (7) Tampico, chief seaports on the Gulf of Mexico.

 (F.)—CENTRAL AMERICA.

I.—POSITION AND EXTENT.

Central America is a narrow strip of country between Mexico and Panama on the north and south, and the Carribean Sea and the Pacific Ocean, on the east and west.

It comprises the five small republics of Guatemala, Honduras, Salvador, Nicaragua, and Costa Rica, together with British Honduras. The total *area* is about 180 sq. miles.

II.—SURFACE.

The country is mostly mountainous, with some volcanoes near the Pacific coast. The only important *rivers* are the Montagua, San Juan, and Dula. The chief *lakes* are Nicaragua and Managua or Leon.

III.—CLIMATE AND PRODUCTS.

On the highlands the climate is most pleasant and healthy; but along the Carribean coasts, on the low plains, and in the valleys, it is moist and hot. Earthquakes are frequent and very violent.

The *vegetable* products include food grains, fruits, spices, and drugs. The *mineral* products comprise gold, silver, iron, copper, zinc and lead. The forests abound with mahogany, rosewood, and logwood.

IV.—PEOPLE AND TRADE.

The *population* is about $3\frac{1}{2}$ millions, and is chiefly composed of Mestizos, a mixed race of Spanish and Indian descent. There are also Negroes, Mulattoes, Zambos, and Creoles.

1. *Imports*.—Chiefly cotton goods.

2. *Exports*.—Gold and silver, indigo, mahogany, logwood, rubber, coffee, hides, &c.

V.—GOVERNMENT AND TOWNS.

Each of the five republics is under its own president and is independent of the others: The government is modelled after that of the United States.

The *chief towns* are :—

- (1) New Guatemala, the largest town in Central America.
- (2) Leon, capital of Nicaragua.
- (3) San Jose, capital of Costa Rica.
- (4) Truxillo and (5) Graytown, both seaports.

(G.)—THE WEST INDIES.

I.—POSITION AND EXTENT.

The West Indies* consist of several groups of islands, of which the chief are :—

- (1) The Bahamas, south-east of Florida ;

* So called by Columbus who had reached them by sailing westward and thought that they were some of the islands of India.

(2) The Greater Antilles, north of the Carribean Sea, including Cuba, Hayti, Jamaica, and Porto Rico ;

(3) The Lesser Antilles, east of the Carribean Sea, including Virgin Islands, the Leeward Islands, and the Windward Islands. The entire *area* of the archipelago is about 95,000 sq. miles.

II.—CLIMATE, PRODUCTS, AND COMMERCE.

The *climate* is tropical. Hurricanes are frequent and very destructive, and earthquakes common. The coast is often unhealthy, yellow fever being very common.

The vegetable *products* include wheat, fruit, coffee, sugar, tobacco and cotton.

III.—POLITICAL DIVISIONS AND TOWNS.

- (1) Cuba, the largest of the West Indies Group, and Porto Rico.

Havana, (capital of Cuba) is famous for its cigars.

Santiago is the chief seaport. San Juan is the capital of Porto Rico.

- (2) Hayti, divided into a Negro republic, with its capital at Port-au-Prince, and a Spanish republic, with its capital at San Domingo.
- (3) Jamaica, the largest of the British West India Islands, —*capital*, Kingston.
- (4) The Leeward islands, with its seat of government at Antigua.
- (5) Trinidad (also belonging to England), with its chief town Port of Spain.
- (6) The Windward Islands (another British island), with its seat of government at Barbadoes.

- (7) The Bahamas, with their capital at Nassau, on the island of New Providence.
- (8) The French islands of Martinique and Guadaloupe.

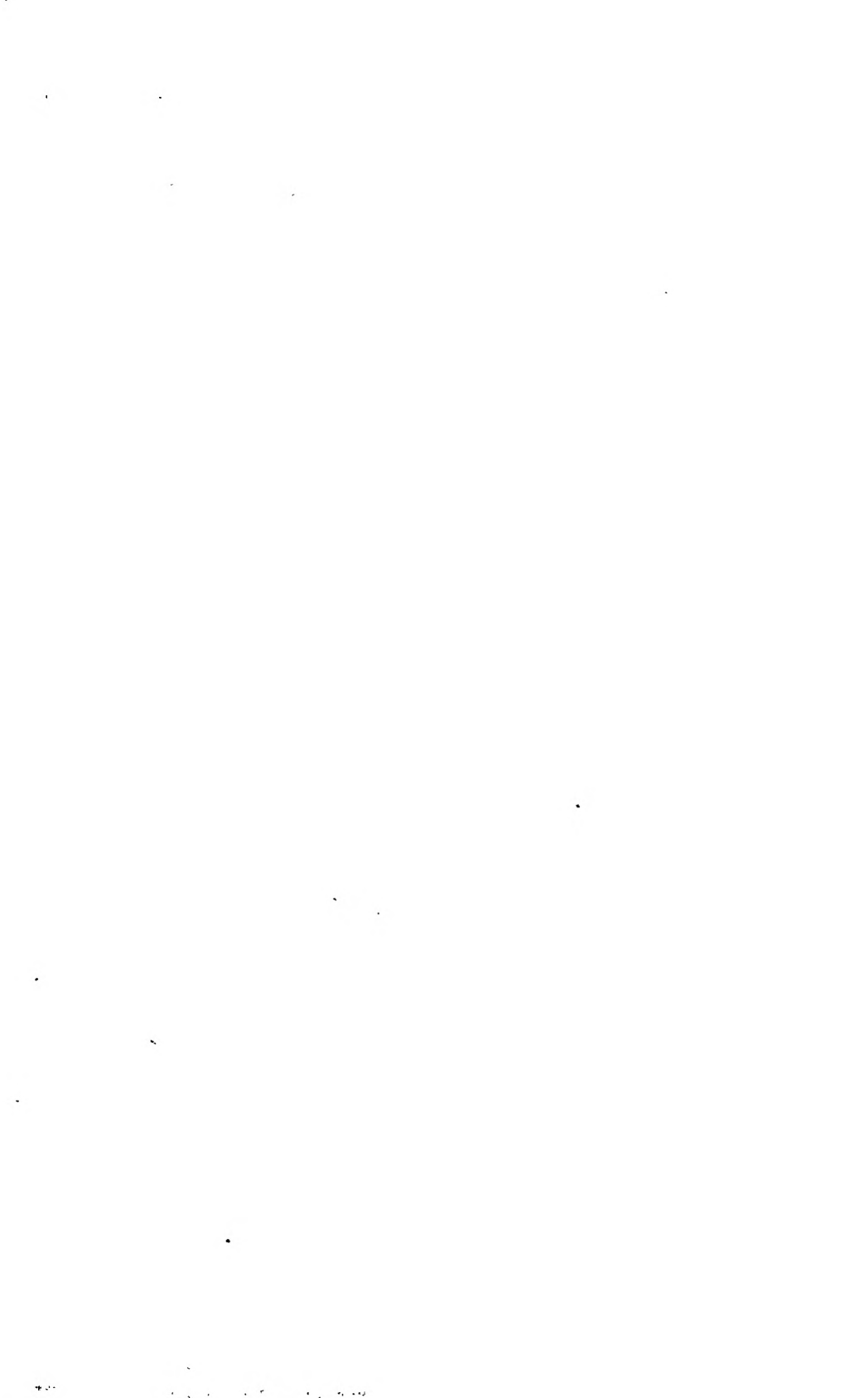
Questions.

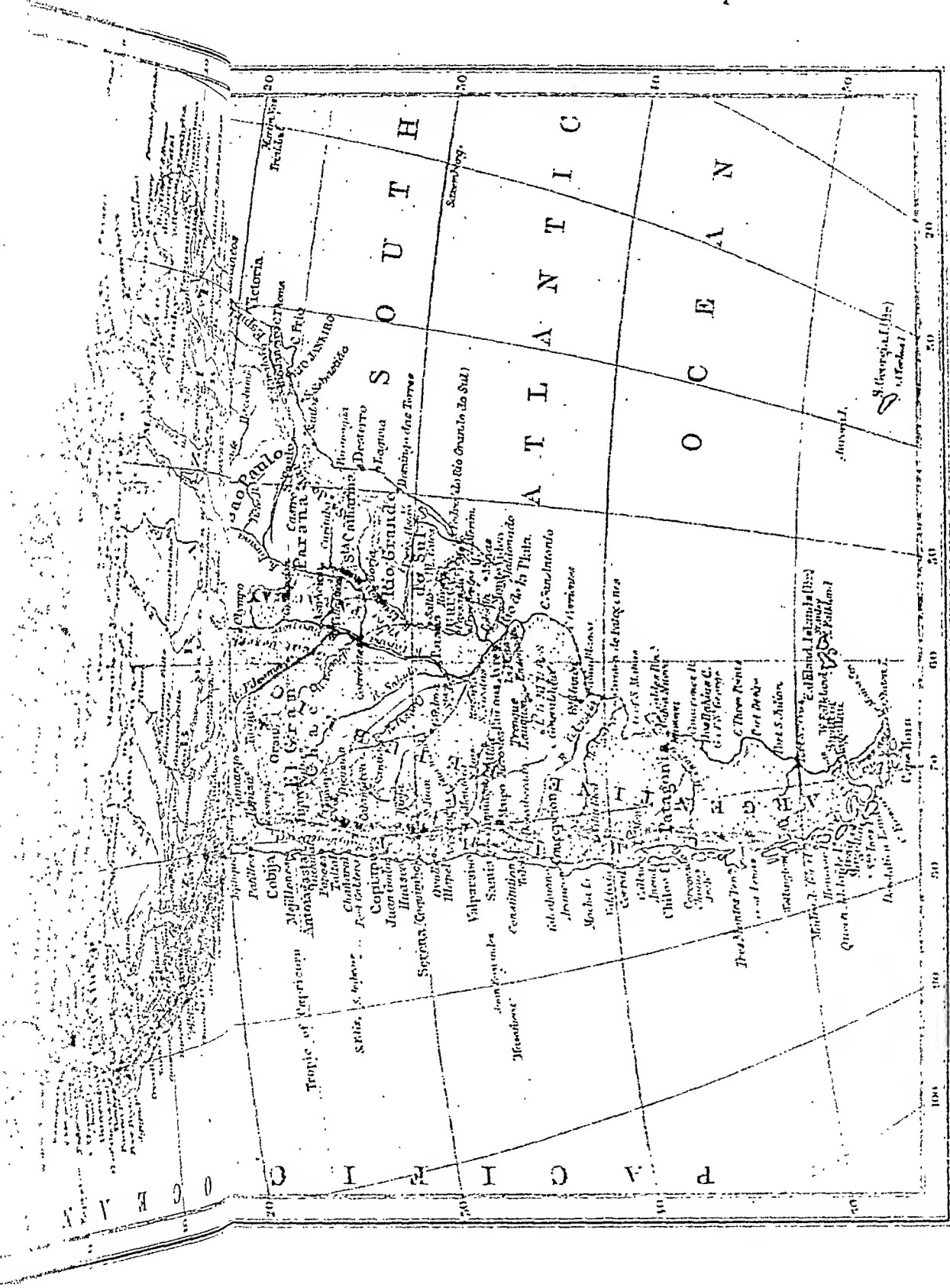
1. Give the boundaries of Mexico, and name some of the important towns.
 2. What states are comprised in Central America? Name some of the important towns situated therein.
 3. What and where are the West Indies, and why are they so called?
 4. Name the political divisions of the West Indies and some of the important towns lying in that tract of land.
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BOOK V.
SOUTH AMERICA.







SOUTH AMERICA.

I.—GENERAL CHARACTERISTICS.

South America *resembles* N. America in several important particulars ;

(1) Both are triangular in shape, very broad in the north and gradually tapering down towards the south ;

(2) both have a huge system of mountains in the west, with many volcanoes ;

(3) both have a great plain in the centre, drained by two gigantic rivers—the Mississippi corresponding to the Plata, and the St. Lawrence to the Amázon. It however *differs* from N. America in respect of the animal and vegetable productions, and climate.

II.—BOUNDARIES.

South America is bounded on the *north* by the Atlantic Ocean and the Carribean Sea, on the *east* by the Atlantic Ocean, and on the *west* by the Pacific.

The northernmost point is Punta Gallinas, the *easternmost* Cape Branco, the *westernmost*, Punta Parina, and the *southernmost*, Cape Forward.

III.—SIZE AND SHAPE.

The length of the continent from north to south is 4,700 miles, and its breadth from east to west, 3,300 miles. The area is about 7 million square miles. In shape it is a triangle.

IV.—COASTS.

The coast-line of South America is less broken than that of any continent except Africa. Although twice as large as Europe it has only three-quarters as much coast-line. The Atlantic coast is usually low, the Pacific coast rocky. Nearly all the islands are in the south.

(I) SEAS AND GULFS.

On the north:—Gulfs of Darien and Venezuela, and the Estuaries of the Orinoco, Amazon, and Para ;

On the east:—the Bay of Tados Santos, the Estuary of the Rio Dela Plata, and the Gulf of Matias and St. George.

On the west:—the Gulfs of Penas, Guayaquil, and Panama.

The only important *strait* is the Strait of Magellan, in the extreme south, separating the island of Tierra del Fuego from the mainland.

(2) CAPES.

On the north:—Gallinas Point, and Cape Orange ;

On the east:—Capes Roque, Frio, Corrientes, and Three points ;

On the south:—Cape Horn ;

On the west:—Tres Montes, Parina point, and Burica.

(3) ISLANDS.

Off the north coast:—Guracao, Buen Ayre, and Magarita ;

Off the south-east coast:—Falkland Islands, Staten, S. Georgia, S. Orkneys ;

Off the south coast:—Tierra del Fuego ;

Off the west coast:—Desclation, Queen Adelaide, Hanover, Welling, Chiloe, Juan Fernandez, and the Galapagos.

V.—RELIEF.

The general slope of the surface is from the high ridge of the Andes in the west towards the east. In the eastern part

of Brazil there are a series of mountain ranges connected by upland plains. There is also a highland region in the north running east and west, and forming the northern boundary of the Amazon basin.

(1) MOUNTAINS.

- (1) The Andes, running north and south, parallel to the coast—Highest Peak, *Sorata*, 24,800 feet.
- (2) The Brazilian Mountains, running irregularly east and west—Highest, peak, *Itambe*.
- (3) The Sierra Parime, and Siarra Acaray, bordering on British Guiana,—Highest Peak, *Roraima*, 8,600 feet.

Other important *mountain peaks* are—Aconcagua, Illimani, (in Bolivia) ; Misti, a volcano in Peru ; Chimborazo, in Ecuador, Cotopaxi, Antisana, and Cayambe, also in Ecuador.

(2) PLATEAUX.

- (1) The Plateau of Bolivia, 100,000 sq. m. in area, with an elevation of 11,000 to 13,000 feet ;
- (2) the Tableland of Quito, with an elevation of 10,000 feet ;
- (3) the Brazilian Tableland with an elevation of 2,000 to 3,000 feet.

(3) PLAINS.

- (1) The Llanos or grass plains of the Orinoco, stretching east from the Andes to the mouth of the Orinoco. They are also called the “ Sea of Grass ;”
- (2) the Selvas or forest plains of the Amazon, covering an area of 1,500,000 sq. miles ;
- (3) the Pampas or treeless plains of the La Plata, 700,000 sq. miles in extent ;
- (4) the Great Shingle Desert of Patagonia, in the south, watered by the Rio Negro and the Chupat.

VI.—RIVERS AND LAKES.

- | | |
|--------------------------|--|
| (1) The Magdalena, | into the Carribean Sea ; |
| (2) the Orinoco, | } flowing into the N. Atlantic ; |
| (2) the Amazon, | |
| (4) the Parana, | |
| (5) the San Francisco, | } flowing into the South Atlantic ; |
| (6) the Paraguay, | |
| (7) the Rio de la Plata, | } flowing south-eastward into the S. Atlantic. |
| (8) the Colorado, | |
| (9) the Negro, | |
| (10) the Santa Cruz. | |

Notes on the Rivers.—

(1) The *Amazon* is the largest, though not the longest river in the world. It rises in the Peruvian Andes, and after an eastward course of 3,400 miles enters the North Atlantic. It drains an area of 2,500,000 square miles. It is navigable for more than 2,000 miles from its mouth.

Tributaries.—The Jurna, Purus, Madeira, Tapajoo, and Kingu—on the south ; the Napo, Putumayo, Japura, and Rio Negro—on the north.

(2) The *Orinoco* rises in the Parimé mountains, flows through Venezuela and part of Guiana, and after a circuitous course of 1,500 miles falls into the North Atlantic, in a milk-white flood, forming an immense delta at its mouth. It drains an area of 360,000 square miles, and its tidal wave ascends as far as 240 miles from the sea, where the river is still four miles in width.

(3) The *La Plata* (or 'Silver river') is formed by the union of the Parana, Paraguay, Uruguay.

The *lakes* of S. America are neither numerous nor important. Titicaca in the south-east of Peru, is the most noted.

VII.—CLIMATE.

A large part of the continent is in the tropics, and the climate is generally warmer than that of N. America, the temperature being nowhere so high as the geographical position of the continent would indicate, owing to the trade winds, the great highland regions, and other physical agencies. *Rainfall* is very scanty, almost *nil*, along a great part of the western coast; but it is abundant on the north-eastern coast.

VIII.—PEOPLE.

The population of S. America is estimated at 38 millions. About one-third are of European descent; the remainder are Indians, negroes, and mixed races. The prevailing religion is Roman Catholicism.

IX.—PRODUCTS.

1. *Minerals*.—South America is very rich in minerals. Peru was long proverbial for its rich silver mines; Brazil has rich gold mines; Chili, copper mines; and Brazil has some diamond mines.

2. *Vegetables*.—Timber, wheat, sugar, coffee, fruit, india-rubber, quinine, cocaine, tapioca, nuts, and potato.

The characteristic animal products of S. America are alpaca, wool, and guano (a kind of valuable manure.)

X.—TRADE AND COMMERCE.

The foreign trade of S. America is carried on with England and the United States. But manufactures are yet in their infancy, and the only exports are raw materials and timber, the imports being all manufactured articles.

XI.—POLITICAL DIVISIONS.

No.	Name of State.	Capital.	No.	Name of State.	Capital.
1.	Colombia	Bogota	8.	Paraguay	Asuncion
2.	Ecuador	Quito	9.	Brazil	Rio de Janeiro
3.	Peru	Lima	10.	Guiana	
4.	Bolivia	Sucre		(a) French Guiana	Cayenne
5.	Chile	Santiago		(b) Dutch Guiana	Paramaribo
6.	Argentina	Buenos Ayres		(c) British Guiana	Georgetown
7.	Uruguay	Montevideo	11.	Venezuela	Caracas

Questions.

1. Enumerate the chief geographical features in which South America resembles North America.
2. Describe the surface features and the coast-line of South America.
3. Name the rivers of South America flowing into the Atlantic Ocean.
4. Describe the climate and people of South America.
5. Mention the chief products of South America and the principal articles of export and import.
6. Give a list of the political divisions of South America, giving the name of the capital in each case.

(A.)—COLOMBIA.

I.—POSITION AND EXTENT.

Colombia* is bounded on the north by the Carribean Sea, on the east by Venezuela and Brazil, on the south by Peru and Ecuador, and on the west by the Pacific Ocean. The total area is just about 500,000 sq. miles.

II.—SURFACE.

Three ranges of the Andes traverse the west of the country. The eastern parts are full of *llanos* or rich plains; the southern districts full of forests. The only important rivers are the Magdalena, and its tributary the Cauca.

III.—PEOPLE, CLIMATE, &c.

The population is over four millions, and is of Spanish, Indian, or Negro, descent. The climate is excellent on the highlands and in the valleys, but along the coasts and on the plains it is hot, moist, and unhealthy.

IV.—PRODUCTS, TRADE, &c.

The products include maize, wheat, rice, plantains, coffee, sugar, cinchona, gold, silver, emeralds, and pearls of the finest quality along the coasts.

1. *Imports*.—Foodstuffs, textiles of all kinds, iron and steel goods, petroleum.

2. *Exports*.—Gold, silver, hide, tobacco, rubber, and coffee.

V.—GOVERNMENT AND TOWNS.

The Government is a Republic, divided into 27 departments. The chief towns are :—

(1) Bogota, the capital ;

(2) Barranquilla, the chief commercial town.

* Formerly called New Granada, and named Colombia after Columbus.

- (3) Panama, a seaport on the Pacific ;
- (4) Aspenwall, another seaport on the Carribean Sea.
- (5) Cartagena and (6) Savanilla are the principal seaports on the Carribean sea.

(B.)—ECUADOR.

I.—POSITION AND EXTENT.

Ecuador* is bounded on the *north* by Colombia, on the *east* by Brazil, on the *south* by Peru, and on the *west* by the Pacific. The *area* is about 116,000 sq. miles.

II.—SURFACE.

The surface is mountainous in the west, where the Andes form a double plain with a valley between. The east is level and forms part of the Great Amazonian plain. The chief mountain peaks of Ecuador are Cotopaxi, the most terrific volcano in the world, Pichincha, and Chimborazo.

Ecuador is naturally divided into three distinct regions : (1) the *Coast*, (2) the *Montana*, or the highland forests of the Amazon basin, and (3) the *Andes*.

III.—CLIMATE &c.

Every variety of *climate* is found in Ecuador—tropical in the valleys and plains ; temperate on the tablelands ; and Arctic on the high mountains.

The *population* is 1,272,000.

IV.—GOVERNMENT AND TOWNS.

The Government is a republic. The chief towns are :—

(1) Quito, the capital, is situated at an elevation of 9,500 feet, and is said to enjoy perpetual spring, and to command views of the most sublime scenery of the earth.

* So called because it lies on the Equator.

- (2) Guayaquil, the principal seaport.
- (3) Cuenca, a university town :
- (4) Ambato, (5) Riobamba, &c.

(C.)—PERU.

I.—POSITION AND EXTENT.

Peru is bounded on the *north* by Ecuador, on the *east* by Brazil, on the *south* by Bolivia, and on the *west* by the Pacific. The *area* is nearly 700,000 sq. miles.

II.—SURFACE.

The surface is exceedingly mountainous in the west ; the centre consists of a high tableland ; between the mountains and the sea lies a lowland desert. The Peruvian Andes contain some of the highest peaks in S. America. The rivers of Peru are chiefly tributaries of the Amazon.

III.—CLIMATE, &c.

Peru is noted for its excellent climate. The natural heat of the valleys is tempered by daily sea-breezes ; and the absence of rain is to some extent compensated for by the *Garua*, a kind of fog which waters the ground.

The *Productions* include the cinchona bark, which yields quinine, alpaca, wool, cotton, coffee, fruit, &c.

The *Population* is above $4\frac{1}{2}$ millions, and consists mostly of Indians.

IV.—GOVERNMENT AND TOWNS.

The Government is a republic divided into 18 departments and two provinces. The chief towns are :—

- (1) Lima, the capital,—the oldest Spanish town in S. America, founded by Pizarro in 1535 ;

- (2) Callao, the port of Lima ;
- (3) Arequipa, a large trading centre in the interior ;
- (4) Cuzco, the ancient capital of the native kingdom of Peru ;
- (5) Pasco, the centre of a silver-mining district, is the highest city in the world.
- (6) Payta and (7) Truxillo, in the north, and (8) Mollendo, in the south, are important seaports.

N. B.—Peru was once one of the most powerful, civilized and wealthy monarchies of the New World. It was conquered and plundered by the Spaniards under Pizarro in 1535.

Questions.

1. In what part of South America are Colombia and Ecuador situated ? Why are they called by those names ?
2. Compare Colombia and Ecuador as regards (1) surface features, (2) products, and (3) climate.
3. Name the chief towns of Colombia, Ecuador, and Peru.
4. Describe (1) the geographical position, (2) the surface features, and (3) the climate, of Peru.
5. Name the important towns of Peru, mentioning anything of interest that you may know about them.

(D.)—BOLIVIA.

I.—POSITION AND EXTENT.

Bolivia * (formerly called Upper Peru) is bounded on the *north* and *east* by Brazil, on the *south* by the Argentine Republic and Chili, and on the *west* by Peru and the Pacific Ocean. The area is 695,000 sq. miles.

* So called after the name of its liberator, General Bolivar.

II.—SURFACE.

The surface is mountainous in the centre, the west, and the south-west, and in these portions of Bolivia lies the highest ground in South America. The north and east consist of extensive plains.

III.—THE CLIMATE, &c.

The greater part of Bolivia lies within the tropics, yet, owing to the elevation, nearly half the country is subject to temperate and cold climates.

The *productions* are the same as those of Peru. Bolivia is celebrated for the silver mine of Potosi, once the richest in the world.

The *population* is $1\frac{3}{4}$ millions.

IV.—GOVERNMENT AND TOWNS.

The Government is a republic. The chief towns are :—

- (1) Sucre, the capital ;
- (2) La Paz, near Lake Titicaca, is the chief commercial town ;
- (3) Potosi, at an elevation of 13,314 ft., is one of the loftiest cities in the world ;
- (4) Santa Cruz, north-east of Sucre ;
- (5) Huanchaca, containing one of the richest silver mines in the world.

(E.)—CHILE.

I.—POSITION AND EXTENT.

Chili or Chile is bounded on the *north* by Bolivia, on the *east* by the Argentine Republic, on the *south* by Patagonia, and on the *west* by the Pacific. The *area* is about 292,000 sq. miles.

II.--SURFACE.

The *surface* is formed mainly by the western slopes of the Andes, and a narrow plain which stretches along the Pacific coast; but a large portion of the country is sandy and sterile. The chief *mountains* are the Andes, which run between Chile and the Argentine Republic, and include some of the loftiest peaks in South America—Aconcagua, and an extinct volcano Tupungato.

III.—CLIMATE, &c.

Chile enjoys a most genial and salubrious *climate*, but is subject to frequent earthquakes.

The *population* is $3\frac{1}{4}$ millions. The chief *exports* are nitrate copper, silver, wheat, iodine, leather, and wool.

IV.—GOVERNMENT AND TOWNS.

- (1) Santiago, the capital;
- (2) Valparaiso, the chief port;
- (3) Concepcion { other seaports;
- (4) Valdivia {
- (5) Coquimbo, a seaport in the north.
- (6) Huasco, (9) Copiapo &c. are other import towns.

(F.)—ARGENTINA.

I.—POSITION AND EXTENT.

Argentina is bounded on the *north* by Bolivia, on the *east* by Paraguay, Uruguay, and the Atlantic, on the *south* by Patagonia, and on the *west* by Chile.

The area is about $1\frac{1}{4}$ million sq. miles.

II.--SURFACE.

The western part is mountainous, being occupied by the eastern slopes of the Andes. The middle portion consists of two

immense level plains. The north, east and south-west have some mountainous tracts. The principal *mountain* is the Andes, which separates Argentina from Chile. The only important *rivers* are the Uruguay, Parana, Colorado, and Negra. Lake Ybera, near Paraguay, is the only large lake.

III.—CLIMATE &c.

The climate varies with the elevation, but is generally healthy. The chief *industry* is the raising of live-stock. The *population* is nearly $6\frac{1}{2}$ millions.

IV.—GOVERNMENT AND TOWNS.

The Government is a republic. The chief towns are :—

- (1) Buenos Ayres, the capital, so called ('good air') from its fine climate ;
- (2) Rosario, a river port on the Parana ;
- (3) Cordova, a large commercial town ;
- (4) La Plata, a seaport, 40 miles S. E. of the capital ;
- (5) Tucuman, (6) Mendoza, and (7) Corrientes.

(G.)—URUGUAY.

Uruguay is bounded on the *north* by Brazil, on the *east* by Brazil and the Atlantic, on the *south* by the Atlantic and the Rio de la Plata, and on the *west* by the Argentine Republic. The *area* is 72,000 sq. miles, and the *population* just over one million. The capital is Montevideo,* situated on the La Plata. The *climate*, though moist, is healthy.

(H.)—PARAGUAY.

Paraguay is the only South American state which has no sea-board. It is bounded by Brazil on the *north* and *east*, and by

* So called from a lighthouse on a mountain overlooking the city.

the Argentine Republic on the *south* and *west*. It is an inland country situated between the rivers Parna and Paraguay, and hence it may be called the "Mesopotamia" of South America. The *climate* is great and temperate, and the country is well watered. The *area* is about 98,000 sq. miles and the *population* 700,000. The *chief industry* is the growing of Paraguay tea. The *capital* is Asuncion, on the left bank of the Paraguay. Villa Rica, Concepcion, and San Pedro are other important towns.

(I)—BRAZIL.

I.—POSITION AND EXTENT.

Brazil* is the largest of the S. American states, and touches every country except Chile and Patagonia. It is bounded on the *north* by Venezuela and Guiana, on the *east* by the Atlantic, on the *south* by Uruguay, and on the *west* by Paraguay, Bolivia and Peru. The *area* is $3\frac{1}{4}$ million sq. miles.

II.—SURFACE.

A fourth part of the country consists of low barren plateaux, called *campos*; the north west consists of the vast *selvas*, or forest plains; the middle and east form a tableland, crossed by low mountain ranges, the main chain of which is the Serra Mantiquiera. In the west of Rio Janeiro are the Organ mountains, and in the north are the Parime, bordering on Guiana. The *chief rivers* are the Madeira and the Rio Negro, tributaries of the Amazon.

III.—CLIMATE, &c.

The climate is in general healthy, and even temperate, although nearly the whole of Brazil lies within the tropics. The

* It is named after a particular wood that it produces, called *Braxa* by the Portuguese.

productions include diamond, the diamond mines of the Upper Fransisco being one of the richest in the world. The *population* is about 17 millions, and is mostly of Portuguese descent.

IV.—GOVERNMENT AND TOWNS.

The Government is a Republic under Portugal. The chief towns are :—

- (1) Rio de Janeiro, the capital, is the second largest city of S. America ;
- (2) Bahia, on the Bay of All Saints, was the former capital ;
- (3) Pernambuco, a seaport in the north-east ;
- (4) Maranham }
- (5) Maranhao } seaports in the north ;
- (6) Para (or Belem), the great port and trade centre for the Amazon.
- (7) Panlo, south west of the capital, has a large trade in sugar and coffee.

(J.)—GUIANA.

Guiana is bounded on the *north* by the Atlantic, on the *south* by Brazil, and on the *north-west* by Venezuela. The *area* is about 180,000 sq. miles, and the population about 350,000. It is divided into three parts :—

- (1) The East belongs to France and is called French Guiana or Cayenne ;
- (2) The middle belongs to Holland and is called Dutch Guiana or Surinam ;
- (3) The West belongs to England, and is called, British Guiana. The chief towns are :—
 - (a) Georgetown, capital of British Guiana, in the province of Demerera ;
 - (b) Paramaribo, capital of Dutch Guiana, on the Surinam river ;
 - (c) Cayenne, capital of French Guiana.

(K.)—VENEZUELA.

Venezuela* lies on the north coast, immediately east of Colombia, and mostly in the valley of the Orinoco. The *area* is nearly 393,870 sq. miles, and the *population* over 2½ millions. The chief *towns* are :—

- (1) Caracas, the capital ;
- (2) La Guaira, the chief port ;
- (3) Bolivar, (4) Manacaybo, (5) Cabello. (6) Barcelona, and 7) Cumana—are all important seaports.

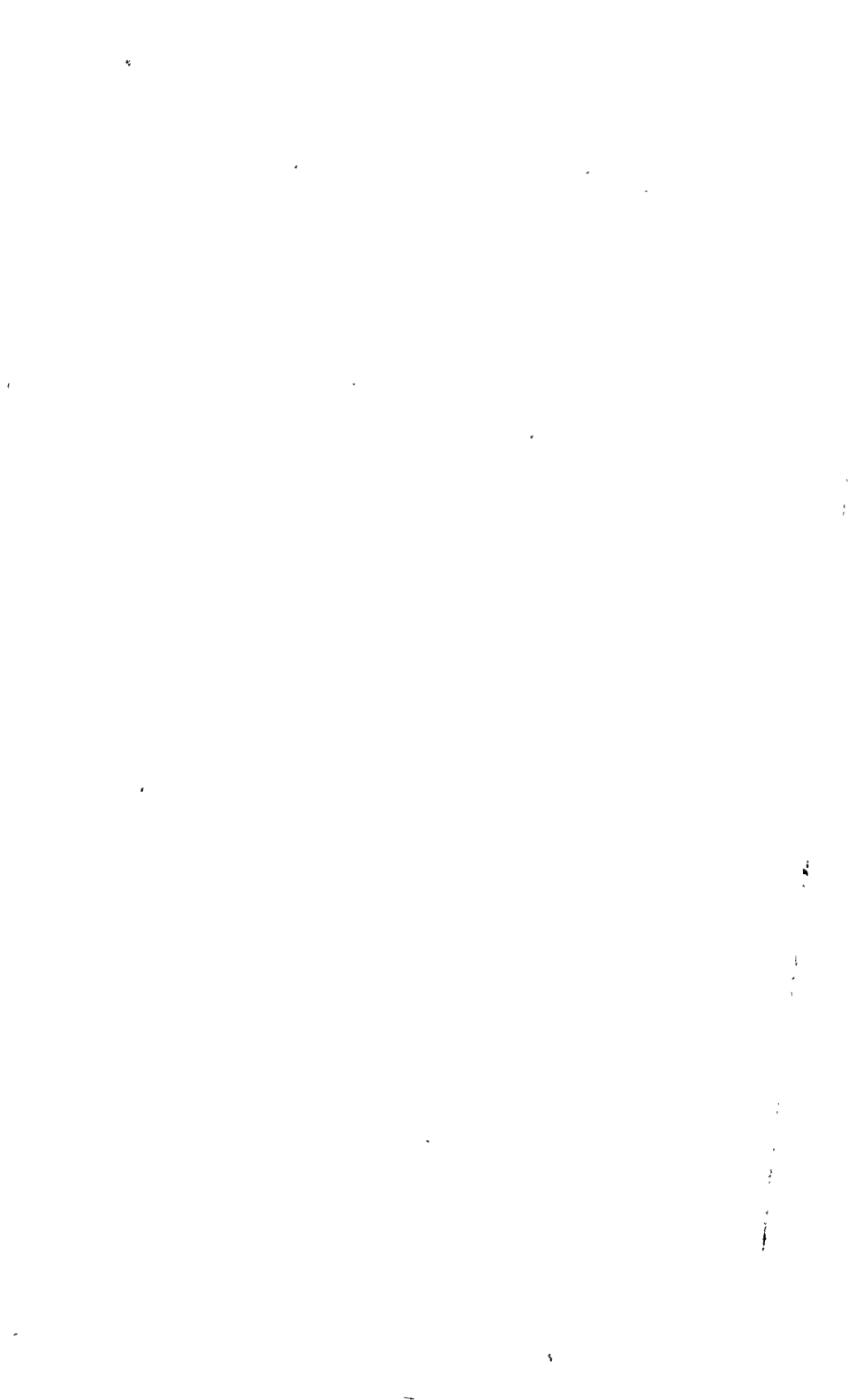
Questions.

1. What and where is Chili? Write anything that you may know about it.
2. Name the chief towns of Argentina.
3. Name any South American states or state which have no seaboard.
4. Which is the largest of the South American states? Write what you know of (1) its surface features, (2) its climate, and (3) its Government and chief towns.
5. Give the boundaries of (1) Uruguay, (2) Guiana, and (3) Venezuela.
6. What and where are the following :—
Pernambuco ; Manacaybo ; La Plata ; Asuncion ; Montevideo ; Corrientes.

* Literally—"little Venice."

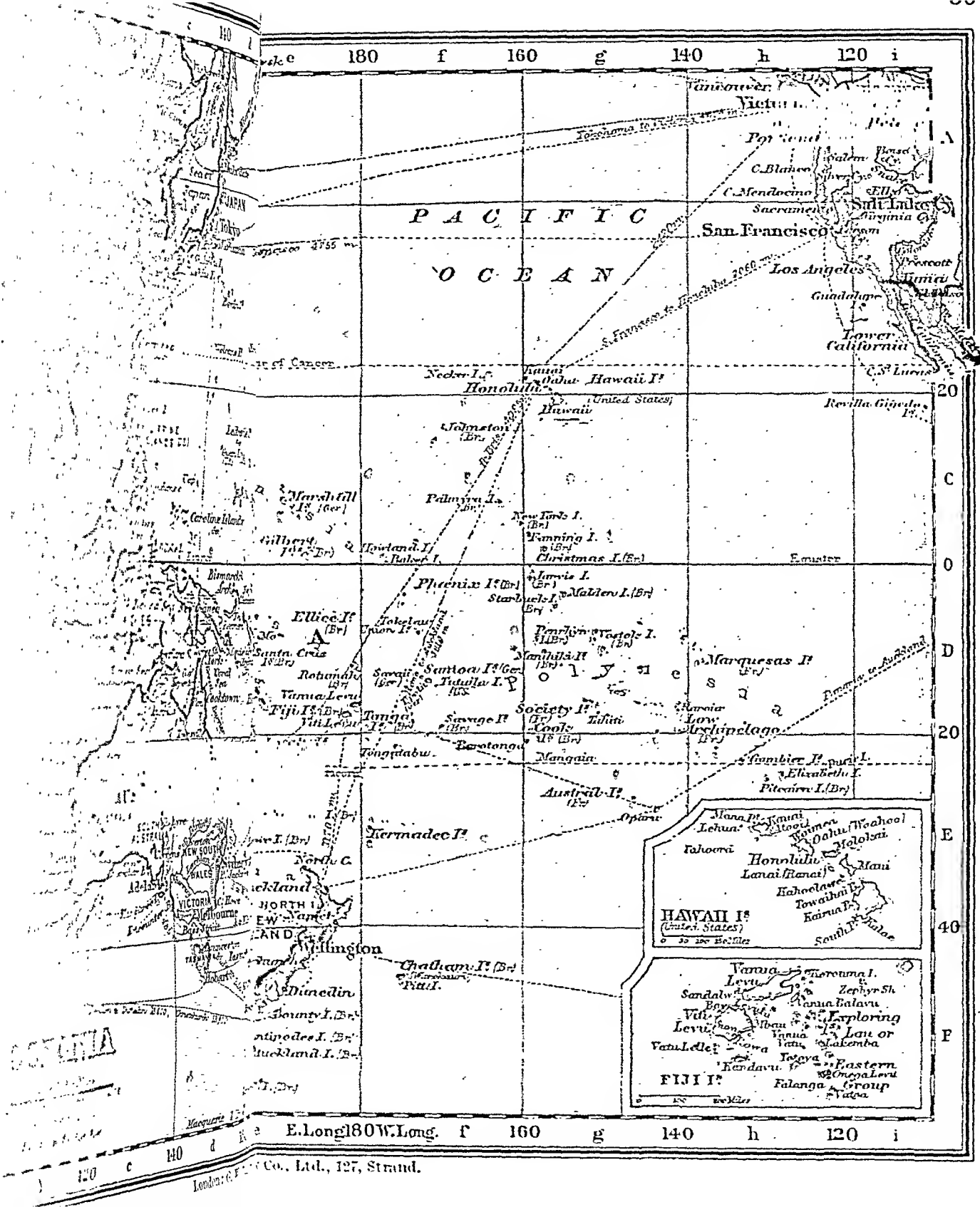
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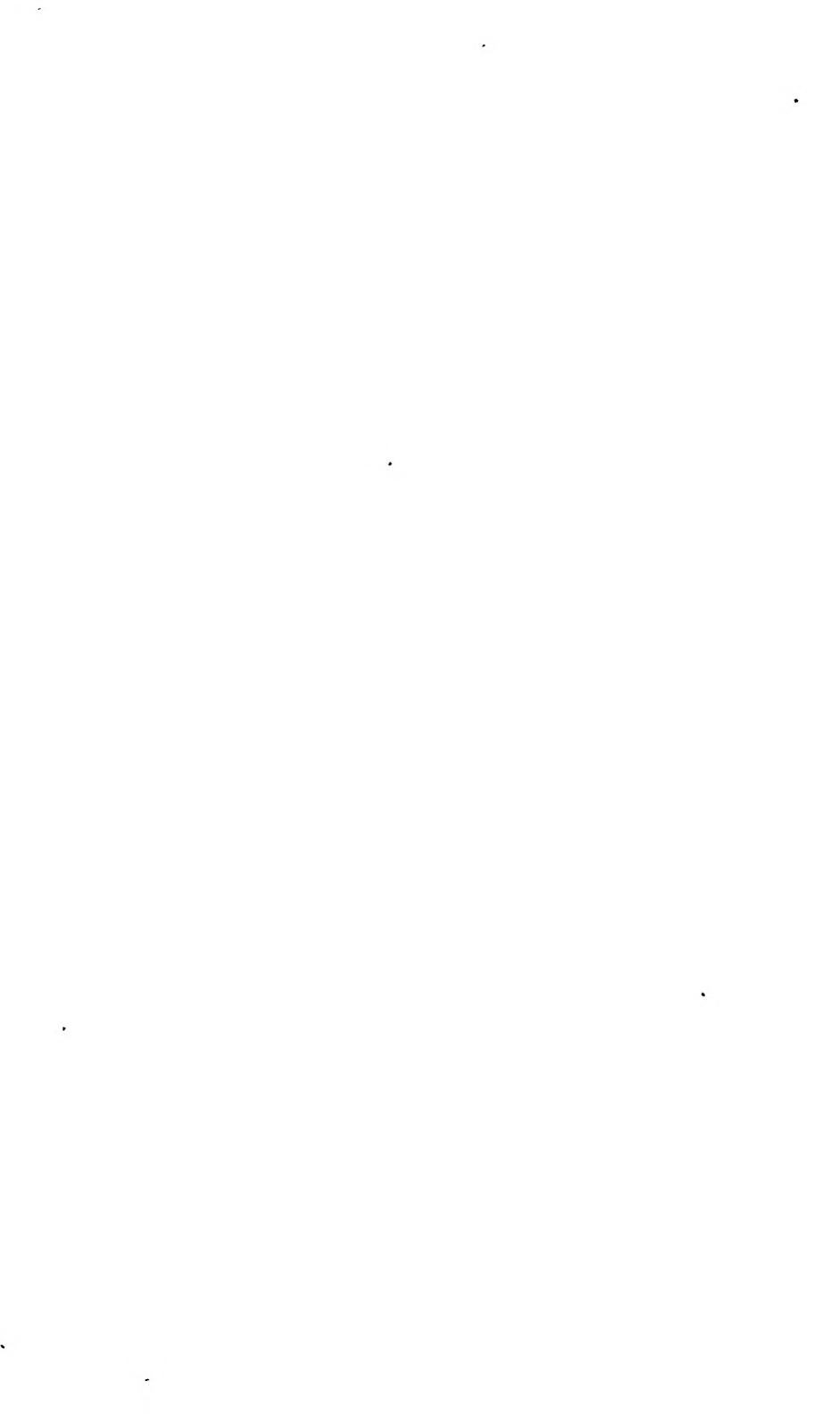
AUSTRALASIA OR OCEANIA











AUSTRALASIA OR OCEANIA.

I.—INTRODUCTORY.

Australasia is that part of the globe south-east of Asia which is studded with numerous islands and extends half-way across the Pacific Ocean. This part is also called Oceania, but the name "Australasia" is preferable, because it suggests the geographical position of this group of islands—*Australasia* literally meaning "Southern Asia."

II.—GENERAL CHARACTERISTICS.

Australia is remarkable among the continents in the following respects :—

- (1) It is an island,—being 1,800 miles from Asia, 4,500 miles from Africa, and 8,500 miles from South America.
- (2) It lies entirely in the Southern Hemisphere.
- (3) It has no great rivers.
- (4) Its animals and plants are unique.
- (5) Its islands range from the largest in the world to the smallest, and from the most fertile to the most barren.
- (6) It possesses no relics of ancient civilisation.

III.—CHIEF DIVISIONS.

Oceania is divided into ;—

- A. The Malay Archipelago or Malaysia.
- B. Milanesia.
- C. Australia and Tasmania.
- D. New Zealand.
- E. Polynesia.
- F. Micronesia.

(A.)—MALAYSIA

Malaysia is the name given to that large archipelago which lies off the south-east coast of Asia, and is sometimes also called

the *Eastern* or *Indian Archipelago*. The total *area* is about 800,000 sq. miles. All the islands are mountainous, and many of them are of volcanic origin. Kinabalu in Borneo is the highest peak in the archipelago.

The *climate* is hot and moist. The *population* is nearly 42 millions, and consists chiefly of Malays, who have given their name to the archipelago. The *products* consist chiefly of spices and minerals. The *foreign trade* is chiefly with the Netherlands and the United Kingdom.

The Malay archipelago consists of the following groups of islands :

1.—The Sunda Islands ; 2 .Borneo ; 3. The Philippine Islands ; 4. Celebes ; and 5. The Moduccas.

I.—THE SUNDA ISLANDS.

1.—SUMATRA.

Sumatra is the most westerly island of Malaysia and lies on both sides of the equator. The Sunda Strait separates it from Java, and the Malacca Strait, from the Malay Peninsula. The *area* is 161,000 sq. miles. The south-west is mountainous. Mount Ophir being a lofty peak near the equator.

The *chief towns* are :

- (1) Kota-raja, capital of Acheen, a native territory in the north ;
- (2) Deli, a seaport in the east ;
- (3) Padang, {
- (4) Bencoolen, { seaports in the west ;

2.—JAVA.

Java is the most flourishing island of the archipelago. It lies south-east of Sumatra, from which it is separated by the

Sunda Strait. The *area* is over 50,000 square miles, and the *population* about 26 million. The *surface* is entirely mountainous, and there are some active volcanoes. The *climate* is excessively hot in the plains, but generally healthy. The *products* include large quantities of coffee, rice, sugar, pepper, and cinchona.

Java is the headquarters of the Dutch in the east. There are remains of some Hindu and Buddhist temples in the island, but the prevailing religion of the people, who are mostly Malays, is Mohamedanism. The *chief towns* are:—

- (1) Batavia, the capital and an important seaport ;
- (2) Samarang, a flourishing town on the north coast ;
- (3) Surabaya, an important commercial town.

3 — MINOR ISLANDS.

(1) Bali, an island which is mountainous and volcanic, and inhabited by a people who still profess Hinduism.

(2) Sumbawa, which contains the famous volcano of Tom-boro.

(3) Timor, which is under Portuguese influence.

(4) Sandalwood Island and (5) Flores, are also small islands to the east of Java.

II. — BORNEO.

Borneo is the largest island of the archipelago. It is washed on the N. E. by the Sulu Sea, on the east by the Macassar Strait, on the south and west by the Java Sea, and on the N.-W. by the Chinese Sea. Its *area* is nearly four times that of Great Britain, while its entire *population* is not more than half of London alone. The *surface* is mountainous, Kini Balu, the highest peak, being 14,000 feet high. The *climate*, though hot, is agreeable, and the soil fertile, the products including coal, gold, and diamonds.

The *people* are mostly Dyaks, the old inhabitants, and Malays and Chinese. North Borneo is under British possession. Brunei is a state in the north under a native king. Sarawak is another state under an English raja, who rules with the aid of a council of native chiefs, and has his capital at Kuching.

III.—THE PHILIPPINES.

The Philippine* Islands are a group of 3,141 islands and islets, the chief of them being Luzon, in the north, Mindanao, in the south, and Palawan, in the south-west. The total *area* is about 128,000 square miles, and the *population* more than $7\frac{1}{2}$ million. The islands are very volcanic. The capital is Manila, in Luzon, noted for its cheroots. The Philippine Islands were ceded by Spain to the United States in 1898.

IV.—CELEBES.

Celebes lies to the east of Borneo, from which it is separated by the Macassar Strait. It consists of four long peninsulas separated by deep gulfs. The total *area* is above 71,000 square miles, and the *population* about 952,000. The *inhabitants* belong to the aboriginal race of the Bugis, who are superior to all the other races found in Malaysia. The most important town is Macassar, the busiest trade mart in Malaysia, which is a Dutch settlement.

V.—THE MOLUCCAS.

The Moluccas, or the Spice Islands, lie to the east of Celebes, and belong to the Dutch. The *area* is 43,000 square miles, and the *population* 407,000. They are a large group consisting of Gilolo, in the north; Ceram, Amboyna, and Ternate, in the centre; and the Banda, or Nutmeg Island, in the south. The

* Named after the Spanish King, Philip II.

islands produce nutmeg, mace, and cloves in large quantities. The chief towns are :—

- (1) Amboyna, capital of the Moluccas ;
- (2) Ternate, a grand seaport.

(B.)—MILANESIA.

Milanesia consists of the islands to the north-east of Australia. Of these the following are noteworthy :—

I. New Guinea.—New Guinea or Papua* lies to the north of Australia, from which it is separated by the Torres Straits. The total *area* is about 300,000 sq. miles. The *surface* is mountainous and covered with dense tropical forests. Mount Owen Stanley (13,000 ft.) is the highest peak in the island. The largest *river* is Fly, which is navigable for some distance.

The principal British settlement is Port Moresby, east of the Gulf of Papua. The island is divided among three powers : the Dutch claiming the west, England the south-east, and Germany the north-east.

II. The Solomon Group.—This is a cluster of numerous islands towards the east of New Guinea. The most important of these are :—

- (1) The Bismarck Isles and Bougainville, belonging to Germany ;
- (2) The Santa Cruz or Queen Charlotte Islands, belonging to England ;
- (3) New Caledonia (with its capital at Noumea), belonging to France ;
- (4) The New Hebrides, independent.

* Literally means 'curly-haired,' in allusion to the tufty hair of the people.

III. **The Fiji Isles.**—The Fiji islands (comprising some 200 islands and islets) lie to the north of New Zealand and were ceded to the British by the chiefs and people of Fiji in 1874. The *area* is about 7500 sq. miles, and the *population* 130,000. The largest islands of the group are Viti Levu and Vanua Levu; the capital is Suva, in the island of Viti Levu.

Questions.

1. What part of the world is called Australasia? Why is it so named? By what other name is it known?
2. Enumerate the geographical features in which Australia differs from the other continents.
3. Write what you know of the Eastern Archipelago. Which is the largest of these islands? Mention a few particulars about it.
4. Where are the Philippine Islands, and why are they so named?
5. Write what you know of (1) The Celebes (2) The Moluccas.
6. Name the islands that are collectively called Melanesia.
7. What and where are the following :—
Amboyna; the Fly; New Caledonia; Viti Levu; Palawan; Buitenzorg; Timor; Kini Balu; Benecolen; Sarawak; Manila; Gilolo; Vanua Levu.

(C.)—AUSTRALIA.

I.—POSITION AND EXTENT.

Australia is bounded on the *north* by the Timor Sea and the Torres Strait, on the *east* by the South Pacific, on the *south* by Bass Strait and the Indian Ocean, and on the *west* by the Indian Ocean. The *area* is estimated at 3 million sq. miles. Its greatest length, from Cape Byron in the east to Steep Point in the west, is nearly 2000 miles. Australia is the smallest of continents, and the largest island in the world.

II.—COASTS.

The coast line of Australia is almost unbroken, and this absence of harbours has been partly responsible for the delay in opening up the interior.

1. *Seas and Gulfs*.—(1) Gulf of Carpentaria, in the north ; (2) the Great Australian Bight, in the south ; (3) Shark Bay, in the west.

2. *Capes*.—(1) Cape York, in the north ; (2) Cape Howe, in the south-east ; and (3) Cape Leenwin, in the south-west.

3. *Islands*.—Except Tasmania, Australia possesses no islands of any importance, although in many places rocky islets lie close to the coast, the most remarkable of which is the Great Barrier Reef which stretches for 1000 miles south-west from near Cape York.

III.—RELIEF.

In Australia the mountains are mostly in the west. The land near the Pacific is high, slopes inland to a plain, and rises into a large plateau in the west. The highlands of Australia are a continuation of the ridge which stretches from Siberia through Japan and the Philippine Islands.

Mountains.—Along the eastern side of Australia, a series of mountain ranges, called the "Great Divide" run from north to south. The highest of these ranges is called the Australian Alps, and its loftiest summit is called Mount Kosciusco, 7176 feet. North of these are the Blue Mountains, the Liverpool Range, and the New Zealand Range. The chief mountain of South Australia is the Flinders Range.

IV.—RIVERS AND LAKES.

(1) The Murray River (the largest in Australia) rises in the Australian Alps and falls into Encounter Bay ; (2) the Darling,

(3) the Murrumbidgee, (4) the Lachlan, all tributaries of the Murray; (5) the Flinders, flowing into the Gulf of Carpentaria; (6) the Fitzroy and the Bursakin flowing into the Pacific; (8) the Swan, flowing into the Indian Ocean.

The most important lakes are Lakes Eyre, Torrens, Gairdner, Frome, Alexandrina, and Albert—all in South Australia; Lake Austin, in west Australia; Lake Amadens, in the centre; Lake George, in New South Wales.

V.—CLIMATE.

The climate of Australia is in general hot and dry, but healthy. The northern and central districts are warm and dry, but the southern ones have a milder climate. The rainfall is irregular, being copious in some years and scanty in others. The seasons are the opposite of ours: their summer is our winter, and their winter our summer. Their day is our night, our day their night.

VI.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—The gold fields of Australia are among the richest in the world. Silver, copper, and tin are also found in considerable quantities.

2. *Vegetables*.—A great part of the interior consists of sandy deserts. But wheat, oats, flax, tobacco, and the vine are grown in the south, and rice, sugar and cotton in the north.

3. *Industries*.—Agriculture is not carried on on a large scale; but sheep-rearing and cattle-breeding are common occupations. Australian wool is of the very finest quality, and is, next to gold, the most valuable product of the country.

VII.—PEOPLE.

The population of Australia is about 4 millions. The original inhabitants do not number more than 100,000, and are fast vanishing. The bulk of the population is of British descent.

VIII.—TRADE AND COMMERCE.

1. *Imports*.—Textiles, clothing materials, metals, and machinery, spirits, timber, paper, drugs, oils, &c.
2. *Exports*.—Gold, leather, sugar, flour, butter, preserved meat, wool, &c.

IX.—GOVERNMENT.

The whole continent is a British crown colony, called the Commonwealth of Australia, ruled by a Governor-general with a parliament of two houses.

X.—POLITICAL DIVISIONS AND CHIEF TOWNS.

1. QUEENSLAND.

Queensland* is the north-east portion of Australia. The *surface* is rather hilly, and the *climate* warmer than that of other divisions. The principal towns are :—

- (1) Brisbane, the capital and chief seaport of the colony ;
 - (2) Rockhampton, a large export town ;
 - (3) Townsville the chief port of the north ;
 - (4) Charters Towers, the chief centre of gold mining.
-

2. NEW SOUTH WALES.

New South Wales is the eastern portion of Australia, and includes the Lord Howe Island and the Norfolk Island. It is the oldest of the Australian colonies. The *surface* is mountainous, being traversed by the Blue mountains from north to south. There are vast treeless plains north of the Murray river, called the Riverina.

* So named by Queen Victoria in 1859, when it was separated from New South Wales. It was formerly known as the Moreton Bay District.

The chief products are wool, gold, coal, hides and skins, copper, &c. The most important *towns* are:—

(1) Sydney, the capital of New South Wales, is the oldest city in Australia, and is situated on Port Jackson ;

(2) Newcastle, a great coal-mining centre ;

(3) Paramatta, another town on Port Jackson ;

(4) Bathurst, a gold mining centre ;

(5) Silvertown, famous for its rich silver mines.

3. VICTORIA.

Victoria* lies at the S. E. extremity of the continent. It is the smallest but most densely populated colony of Australia. The *area* is about 88,000 sq. miles, and the *population* $1\frac{1}{3}$ million. The *surface* is mountainous, except in the north and north-west. The *climate* is pleasant, though subject to occasional changes, owing to the hot winds which blow sometimes for 20 to 30 hours.

Victoria is the principal gold-producing colony of Australia. The chief *towns* are:—

(1) Melbourne, the capital, is the largest town of Australasia and is known as the “ Queen of the South ” ;

(2) Geelong, a centre of woollen manufactures ;

(3) Ballarat, north-west of Melbourne, was the centre of the richest gold district in the world.

4. SOUTH AUSTRALIA.

South Australia occupies the central portion of the continent from its north to its south shores. The *area* is over 900,000 sq.

* Formerly called Port Philip ; separated from New South Wales in 1851 and erected into a separate colony.

miles and the *population* 370,000. Most of the colony is desert, with occasional grassy plains and ranges of hills. The *climate* is very dry, and the colony suffers most frequently from drought. The chief *towns* are.

- (1) Adelaide, the capital ;
- (2) Palmerston, a splendid harbour.

5. WEST AUSTRALIA.

West Australia covers all the western side of the continent. It is the largest but the least populous of the Australian colonies. The *area* is just under one million sq. miles, and the *population* 184,000. The *surface* may generally be described as a vast forest interspersed with occasional sandy plains. The *climate* is considered to be one of the finest and most salubrious in the world. The chief *towns* are :—

- (1) Perth, the capital, in the S. W. ;
- (2) Freemantle, the chief port ;
- (3) Albany, a coaling station for mail steamers.

TASMANIA.

Tasmania is an island lying off the south-east corner of Australia, from which it is separated by the Bass Strait. The *area* is 26,000 sq. miles. The *coasts* are even and unbroken in the north, but rugged and indented in the south. The *surface* is mountainous and densely wooded. The *climate* is more temperate than that of Australia, and very healthy. The *population* is about 182,000. The chief *towns* are :—

- (1) Hobart, the capital and chief port ;
- (2) Launceston, the chief port of the north ;
- (3) Stanley, another large seaport in the north ;
- (4) Longford, the centre of an important agricultural district.

Questions.

1. Give the geographical boundaries of Australia.
2. Describe (1) the coast, and (2) the surface features, of Australia.
3. Name (1) the chief mountain ranges. (2) the important rivers, and (3) the lakes, of Australia.
4. Name the chief products and industries of Australia and the principal articles of export and import.
5. Name the five political divisions of Australia, mentioning the names of two of the chief towns of each.
6. Where is Tasmania? Name some of its chief towns.
7. What and where are the following :—
 Leenwin; Kosciusco; Amadens; Brisbane; Riverina; Geelong; Palmerston; Albany; Freemantle; Launceston; Longford.

(D.)—NEW ZEALAND.

I.—POSITION AND EXTENT.

New Zealand* which consists of three islands—the *North Island*, the *South Island*, and the *Stewart Island*,—lies about 1,200 miles S. E. of Australia. It is bounded on all sides by the Pacific Ocean. The total area is 106,000 sq. miles.

II.—COASTS.

1. *Seas and Gulfs*—(1) Gulf of Hauraki, (2) Bay of Plenty, and (3) Hawke Bay, in the east of North Island ;
 (4) Kawhia Harbour, in the west of North Island ;
 (5) Massacre Bay and (6) Blind Bay, in the east of South Island.

Besides there are numerous other small inlets.

2. *Straits*.—(1) Cook's Strait, separating North Island and South Island.
 (2) Foveaux Strait, separating South Island from Stewart Island.

* New Zealand was discovered in 1646 by a Dutch navigator, Tasman, who named it after Zealand, a province of Holland.

III.—SURFACE.

1. *Mountains*.—The whole of New Zealand is of volcanic origin and mountainous. The chief mountain ranges are :—(1) the Ruahine Range, in North Island ; and (2) the Southern Alps, with its highest point Mount Cook (13,000 ft.) in South Island.

2. *Rivers*.—(1) the Waikato, flowing into Manikau Harbour : (2) the Thames, flowing into Hauraki Gulf,—both in North Island.

(3) The Grey, and (4) the Butler,—the chief rivers of South Island.

3. *Lakes*.—(1) Lake Taupo, in N. Island, is the largest lake in New Zealand ; (2) Lakes Coleridge and (3) Tekapo, in South Island.

IV.—CLIMATE.

In respect of climate, New Zealand has been called the “ Britain of the South.” The rainfall varies from 28 to 112 inches in different parts of the country.

V.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—Gold, coal, copper, silver, iron, and greenstone are largely found.

2. *Vegetables*.—Wheat, oats, barley, potatoes, &c.

3. *Industries*.—New Zealand is principally a sheep-farming country.

VI.—PEOPLE.

The population is just above one million of whom more than half are Maoris, the native inhabitants of the country, and nearly 4,000 Chinese, the rest being descendants of British settlers.

VII.—TRADE AND COMMERCE.

1. *Imports*.—Clothing materials, machinery, sugar, tea, spirits, &c.

2. *Exports*—Wool, gold, butter and cheese, preserved meat, &c.

VIII.—GOVERNMENT AND TOWNS.

The country is ruled by a Governor, appointed from England, and a Parliament of two Houses. The chief towns are :—

(1) Wellington, the capital ; (2) Auckland, the chief seaport ; (3) Dunedin, an important seaport and university town ; (4) Christchurch, a flourishing manufacturing town ; (5) Napier ; (6) Lyttleton, (7) Nelson, (8) Picton,—other seaports.

(E.)—POLYNESIA.

Polynesia* is the name given to the numerous islands lying in the Pacific between Australasia and America. Polynesia and Micronesia are together spoken of as the "South Sea Islands." The total *area* is about 10,000 sq. miles. Some of the islands are hilly and volcanic, others low and coral. The *climate* is as a rule very moderate and equable. The *people* belong to the Malay race, and are expert fishermen. The chief exports are copra and pearl-shell.

Polynesia consists of the following groups of islands :—

I. The Fiji Islands, consisting of two large and some 200 small islands off the east coast of Australia. These have been a British possession since 1874.

II. The Friendly Islands, south-east of the Fiji group.

III. The Navigator Islands (or Samoa Group), north-east of Fiji.

IV. The Society Islands, far east of the Friendly Islets. The chief island of the group is Tahiti, celebrated for its luxuriant vegetation.

* Literally = ' numerous islands.'

V. Cook Isles, south-west of Tahiti.

VI. The Austral Isles, south of the Society Islands.

VII. The Low islands, (or Low Archipelago), far east of the Society Islands.

VIII. Gambier Islands, at the south-east extremity of the Low Islands, belonging to France.

IX. Pictairn, south-east of the Gambier Islands.

X. The Marquesas Islands, north-east of the Low islands, belonging to France.

XI. Easter Island, the most easterly of the Pacific Islands.

(F.)—MICRONESIA.

Micronesia is the name given to that large number of small islands lying north of the equator, between the Philippine islands on the west and the Sandwich Isles on the east. The chief islands of this group are :—

- | | |
|--|-----------------------|
| (1) The Gilbert or Kingsmill Islands, | } in the east ; |
| (2) The Marshall Islands, | |
| (3) The Caroline Islands, | } west of the above ; |
| (4) The Pelew Islands, | |
| (5) The Ladrone, north of the Carolines. . | |

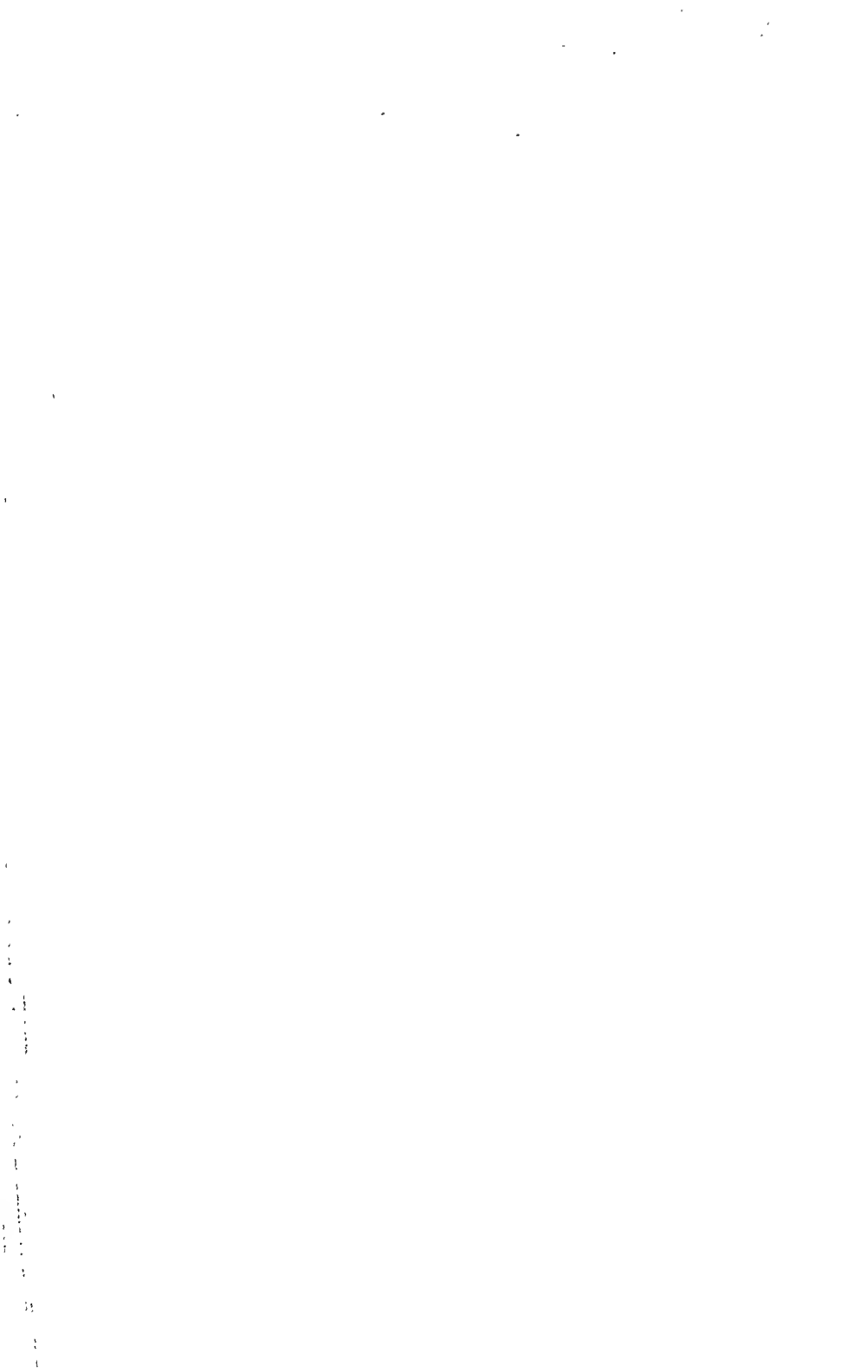
The Gilbert Isles belong to England ; Guam (one of the Ladrone group) belongs to the United States ; the rest belong to Germany.

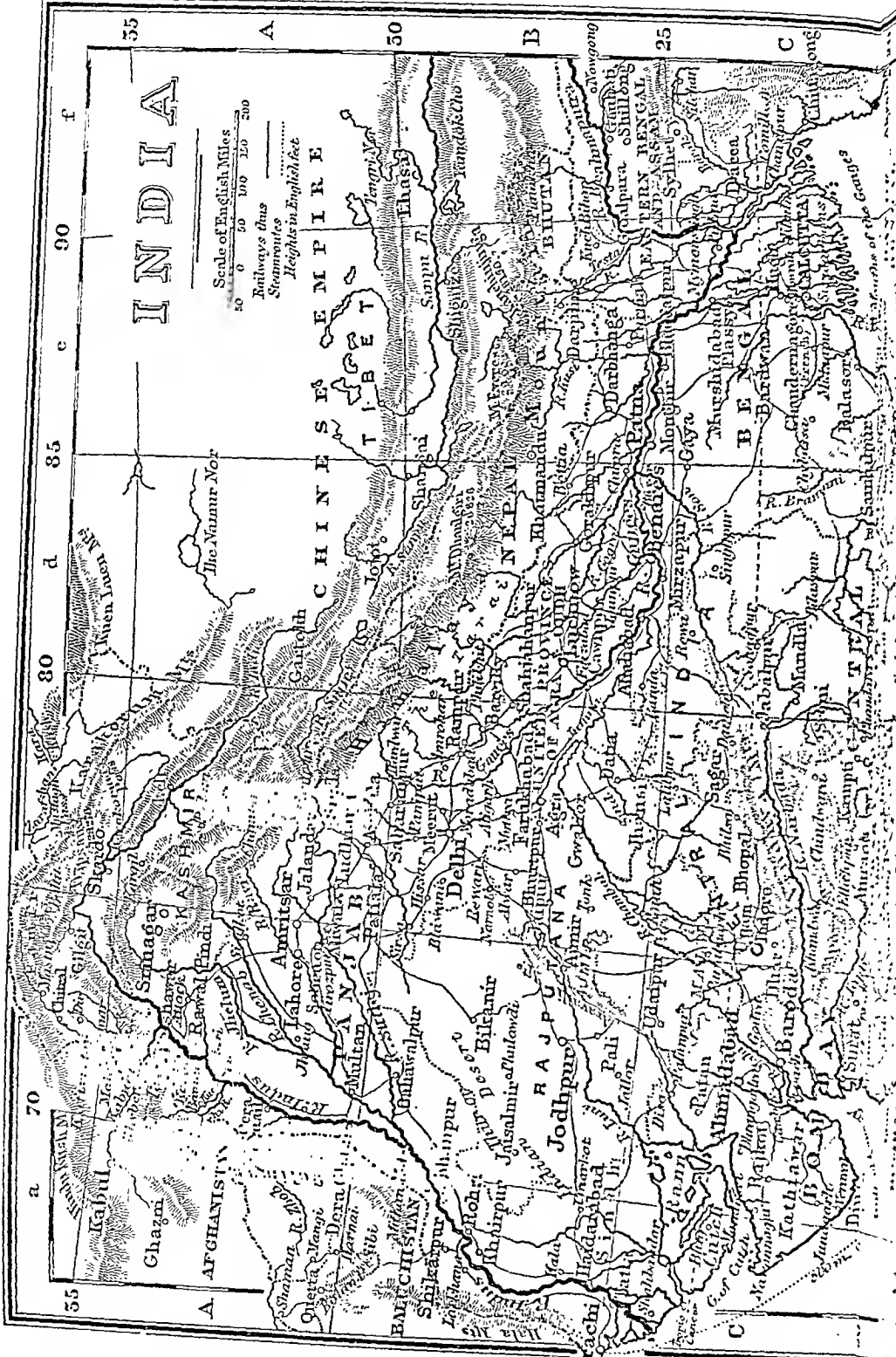
Questions.

1. Describe the position, extent, and the seas and gulfs of New Zealand, Why is the country so named ?
2. What country has been called "the Britain of the South," and why ?
3. Mention the chief products of New Zealand and name the principal articles of export and import.
4. Describe the Government and name *four* of the important towns of New Zealand.
5. Name the islands that are collectively called Polynesia, and state why they are so named ?
6. To what group of islands has the name Micronesia been given ? To what European powers do they belong ?
7. What and where are the following :—

The Ruahines ; the Waikato ; Coleridge ; Nelson ; Napier ; Pictairn ; the Ladrone ; Guam.

BOOK VII.
THE INDIAN EMPIRE.





INDIA

Scale of English Miles
0 50 100 150 200
Railways thus
Steam routes
Heights in English feet

CHINESE EMPIRE

TIBET

INDIA

RAJASTHAN

GUJARAT

MADHIA

ORISSA

BENGAL

ASSAM

NEPAL

SIKKIM

ARUNACHAL PRADESH

TRIPURA

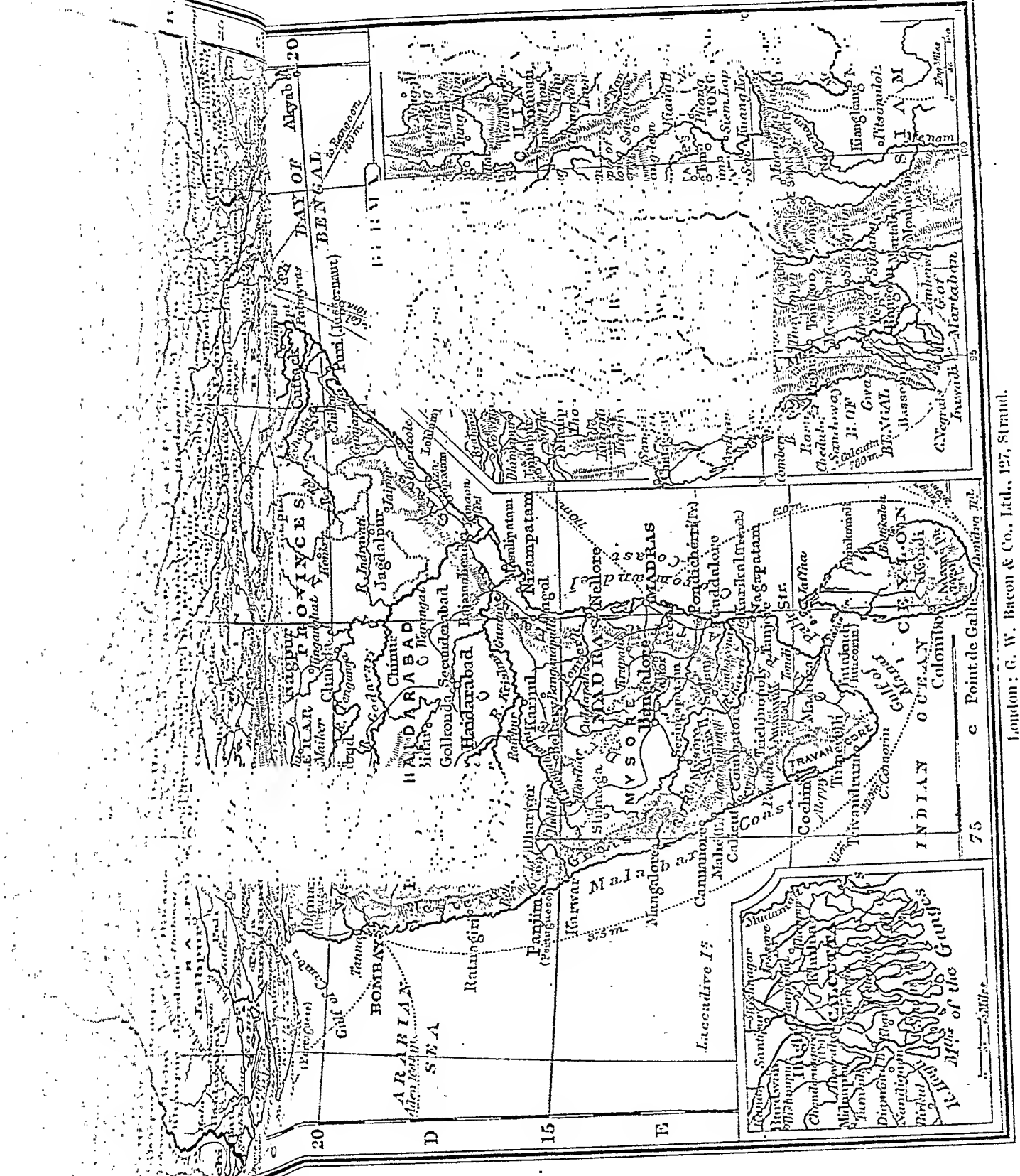
MANIPUR

MEIKHIL

COCHIN

CEYLON

AFGHANISTAN



London : G. W. Bacon & Co., Ltd., 127, Strand.



PART V.

GENERAL GEOGRAPHY OF THE INDIAN EMPIRE.

INTRODUCTION.

1. **India not a Country but a Continent.**—India is one country politically, being all under one Government, but geographically it is a continent, being a collection of several countries differing in physical features, soil, climate, productions, people, languages, and religions.

2. **Geographical advantages of India.**—India has been called “the fairest jewel in the British crown,” for it possesses numerous geographical advantages which are not found together in any other country :—

(1) Her frontiers consist of natural defences,—the sea on three sides, and the impassable Himalayas on the fourth.

(2) The climate is healthier than that of most other countries of the same latitude.

(3) The soil is wonderfully fertile.

(4) The natural products are of wonderful variety and richness.

3. **Boundaries.**—India is bounded on the *north* by the Himalaya Mts., on the *east* by Burma and the Bay of Bengal, on the *south* by the Indian Ocean, and on the *west* by the Arabian Sea, Beluchistan and Afghanistan.

4. **Size and Shape.**—The total area of the Indian Empire exceeds 1,800,000 square miles. The greatest length, from the north of Kashmir to Cape Comorin in the south, is 2,022 miles, and the greatest breadth, west to east, from the easternmost point of Burma to the westernmost point of Baluchistan, is 2,520 miles. In shape, India is a rough triangle.

CHAPTER I.

THE RELIEF OF INDIA.

1.—General surface features.

India may be divided into four regions in point of surface or relief as follows :—

(1) The region of mountains, comprising the Himalaya mountains and their western and eastern offshoots ;

(2) the region of plains, lying at the foot of the Himalayas, and including the valleys of the Ganges, the Indus, the Brahmaputra, and their tributaries ;

(3) the region of tablelands, comprising the Deccan and Central India ;

(4) the coast-strips, namely the strips of land lying between the Western and the Eastern Ghats and the sea.

2.—Mountains of India.

(1) The Himalayas* with their lofty peaks, of which the following are well-known :—

Nanga Parbat, 26,629 feet ;

Nanda Devi, 25,661 feet ;

Dhaulagiri, 26,826 feet ;

Gosainthan, 26,305 feet ;

Mount Everest † or *Gauri Shanker*, 29,002 feet the highest mountain peak in the world.

Kanchinjunga, 28,156 feet ;

Chamalary, 23,933 feet ;

(2) The Karakoram Mts. and the Hindukush stretching south-east and south-west from Pamir.

* The Himalayas are not a true waterparting, for many large rivers, such as the Indus, the Sutlej, and the Brahmaputra, cut through them from the tableland of Tibet to the plains of India.

† So named after Colonel Everest, who first determined its height.

Mount Godwin Austin (28,265 feet), in the Karakoram range, is the second highest mountain in the world.

(3) The *Safed Koh*, south of the Hindu Kush, running east and west between the Kabul and Kuram rivers, and rising to over 15,000 feet.

(4) The *Suleman Range*, west of the Indus, with its highest peak the *Takht-i-Suleman*, 11,300 feet.

(5) The Ranges of Peninsular India, comprising—

(a) the *Aravalli Hills* in Rajputana, and running south-west from Ajmer to near Mount Abu, 5,650 feet ;

(b) the *Vindhya Hills*, in Central India ;

(c) the *Satpura Hills*, between the *Narbada* and the *Tapti*, and running parallel to the *Vindhya*s.

(d) the *Western Ghats*, along the western edge of the *Deccan plateau* ;

(e) the *Nilgiri Hills*, in *Mysore*, with its highest peak, *Dodabatta* 8,760 feet ;

(f) the *Eastern Ghats*, along the eastern edge of the *Deccan* ;

(g) the *Anamalai Hills*, south of the *Nilgiris*.

The Mountain Passes.

The principal mountain passess of India are:—

(1) the *Malakand Pass*, in the east of *Chitral* ;

(2) The *Barogil*, and (3) *Dorah* passes, over the Hindu Kush ;

(4) the *Khyber Pass*, over the eastern spurs of the *Safed Koh*, leading from *Peshawar* to *Kabul* ;

(5) the *Kuram Pass*, also leading to *Kabul*, *via* the valley of the *Kuram river* ;

- (6) the Tochi Pass, along the valley of the Tochi, and leading from Bannu to Ghazni ;
 - (7) the Gomal Pass, 30 miles north of the Takht-i-Suleman ;
 - (8) the Bolan Pass, to the west of the Southern Suleman, now traversed by a railway.
-

3.—The Plains of India.

The Plain Region of India, called the great Indo-Gangetic Plain, is bounded on the *north* by the Himalayas, on the *east* by the Bay of Bengal, on the *south* by the Deccan, and on the *west* by the Arabian Sea.

The chief characteristics of this region are :—

- (1) the land is alluvial, and hence very fertile ;
 - (2) the soil is very deep ;
 - (3) the country is very flat, and this makes the rivers flow slowly and fertilize the country ;
 - (4) it is very extensive, containing more than one-third of the land of India proper.
-

4.—The Tablelands of India.

(1) The Tableland of the Deccan, bounded on the west by the Western Ghats, on the east by the Eastern Ghats, and on the north by the Vindhya and Satpura Hills. It is from 1,000 to 3,000 feet in elevation, and slopes towards the Bay of Bengal.

(2) The Tableland of Central India, or Malwa, lies to the north of the Deccan, and is bounded on the west by the Aravalli Hills, on the south by the Vindhya, and on the north sloping down to the Ganges and Jumna valley. The S. W. corner of this tableland, between the Aravallis and the Vindhya, is called the Malwa plateau.

The region of Tablelands differs from the Plain Region in the following respects:—

- (1) it is not smooth and flat, but elevated ;
- (2) the soil is not alluvial, but rocky ;
- (3) it is not so fertile nor so thickly populated

5.—The Coast strips.

(1) On the west there is a strip of coast (of about 40 miles' breadth) stretching from the head of the Gulf of Cambay right down the west coast to Cape Comorin, and lying between the hills and the sea shore. The northern half is called Konkan, and the southern, the Malabar coast.

(2) On the east there is a similar strip of coast, lying between the Eastern Ghats and the Bay of Bengal, and called the Caromandel coast.

6.—Coasts and Islands.

1. Peculiar features of the coasts of India.—(1) They are broken by very few inlets of the sea ; (2) they have very few islands round them.

2. Gulfs and Straits.—(1) the Rann of Cutch (2) the Gulf of Cutch ; (3) the Gulf of Cambay ; (4) the Backwaters of Cochin and Malabar ;—all on the west coast.

- | | | |
|-------------------------|---|---------------------------|
| (5) the Palk Strait ; | } | between India and Ceylon. |
| (6) the Gulf of Manar ; | | |

3. Islands.—(1) Ceylon, to the south of India ;

(2) the Laccadive Isles, off the Malabar coast ;

(3) the Maldive Isles, off the east coast of Ceylon ;

(4) Rameswaram,

(5) Manar,

(6) Sagar,

(7) Diamond Island, at the mouth of the Ganges.

CHAPTER II.

CLIMATE AND RAINFALL.

SECTION I.—CLIMATE.

India is such a large country that it has different climates in different places, and the climate of each of these places changes in different parts of the year. If we wish to find out the climate of any part of India, we must ascertain the following particulars :—

(1) How far is it from the equator? The southern part of India is in the Tropics, and the northern in the Temperate Zone. Hence India, as a whole, is a very hot country, and, generally speaking, the heat gets less as we go north.

(2) How much is it above sea level? The thermometer fall 1° F. for every 333 feet of elevation above sea-level. Hence as a rule places on the plains of India are hotter than hill stations or places on the tableland.

(3) Is it near the sea or far inland? The coast districts have a much more equable climate than those inland.

(4) What are the prevailing winds? As India is a peninsula projecting far into the ocean, all winds that come to it from the southward will be moisture-bearing winds.

(5) Is it protected from moist sea-breezes by mountains? The Himalayas stop the cold northern blasts from reaching India, and also prevent the moisture-bearing winds from the ocean from passing out of India.

(6) Is it situated in dry sandy soil, or in the midst of forest? Bengal, Eastern Bengal, Assam, and the west coast are places with a *damp* climate. Beluchistan, the Panjab, Rajputana, Gujarat, and Central India have a *dry* climate. Forests enable the soil to retain moisture.

For example, take Calcutta—

Its *latitude* places it in the Torrid Zone, and so gives it a hot climate. It has no *elevation*, being only 20 feet above the sea-level. It is 70 miles from the *sea*, and hence has an equable climate. The *winds* are dry in winter and moist in summer. There are no mountains near it. It is situated on the Ganges Delta, and so has a damp climate.

SECTION II.—RAINFALL.

The rainfall in India depends upon the monsoons.

1. **Cause of the Monsoons.**—During the summer months the air in Northern India gets heated and passes off into the atmosphere, and cooler currents from the ocean flow towards India. As these winds blow over thousands of miles of sea-water, they are laden with moisture and produce rain.

2. **Two monsoons: Summer and Winter.**—There are two monsoons that blow in India: (1) the summer monsoon, blowing from April to October; (2) the winter monsoon, blowing from October to April. The Summer Monsoon has two branches, one proceeding from the Arabian Sea, the other from the Bay of Bengal. The Arabian Sea branch first strikes the Western Ghats, and as these are much cooler than the sea, the moisture in the wind is rapidly condensed, and falls in torrents of rain. It then passes over these mountains, and though it loses much of its moisture there, it has some still left for the Deccan, where, however, the rainfall is much smaller than on the Ghats.

The Bay of Bengal branch first strikes the Burma mountains, where, like the Ghats, the rainfall is very heavy. Another part of the same branch strikes the Ganges delta, and the Garo, Khasi, and Jainti Hills, where the rainfall is the heaviest of all,—Cherapunji averaging 500 inches in the year. Beyond this, the

monsoon is checked by the Himalayas. One current goes up the Brahmaputra valley, and the other is turned by the Himalayas and passes up the Ganges valley. This latter is very important, because (1) being bent round by the Himalayas, it blows up from the Bay; (2) none of it gets beyond the Himalayas; (3) it gets weaker as it passes up the Ganges valley, and gives more rain on the north side than on the south of the valley.

(2) The Winter Monsoon commences in October. By the end of September, the summer monsoon, blowing for the four preceding months, has raised the pressure of the atmosphere in Northern India and Burma, where the moist south-west wind can penetrate no longer, and blows therefore over the southern part of the peninsula from a *north-easterly* direction. This wind is therefore called the North-east monsoon, though it is really the Bay branch of the south-west monsoon turned round, and should better be called the Winter monsoon.

3. **Winter Rains of Northern India.**—The snow on the Himalayas, and the cold wind from the Iranian tableland, cool the damp air in the north-west of India, and produce rain on the Lower Himalayas, the Punjab, and the United Provinces in winter and early spring.

Distribution of rainfall in India.—Rainfall is very unequally distributed in India, which may be divided into the following regions in respect of rainfall:—

(1) The Ganges valley.—Here the rainfall is very heavy at the eastern and the northern end, and gets smaller towards the west and the south.

(2) The west and east coasts.—The west coast, from the Tapti to Cape Comorin, has abundant rainfall; but the east coast, from the Ganges delta to Cape Camorin, has only a fair average.

(3) The Deccan and Central India.—Here the rainfall is scanty and uncertain, except in the north-east corner.

(4) Rainless Tracts.—The Indus valley, with Beluchistan and Western Rajputana, up to the Aravallis, is a rainless tract.

Geographical Causes of Famine.—The failure of the rains brings on a famine in places where the rainfall is moderate, and the population mainly agricultural. In places where the rainfall is naturally scanty, famines are scarce, for the people are not in the habit of depending upon the rains, as for example Sindh, and parts of the Punjab lying in the Doabs of the Five Rivers. In places where the rainfall is naturally heavy, there is no fear of famine, for even if the rains fail, there is still enough to fertilise the ground, as for example, in the Lower Ganges and the Assam valleys, and in Burma. The Tableland Region of India is the tract most subject to famine.

CHAPTER III.

RIVERS.

1. **General Features of Indian Rivers.**—The rivers of India have certain peculiar characteristics :—

(1) Many of them contain water only in the rainy season, and others are quite dry, and only those that come from mountains covered with perpetual snow have water in them all round the year.

(2) Some rivers in the plains are constantly changing their course, and this is because the course of a river depends on the kind of country it flows through.

(3) Most Indian rivers have three well-defined stages in their course :—

(a) the mountain stage, where the current is thin and rapid ;

(b) the plain stage, where the current is broad and slow ;

(c) the delta stage, where the current splits up into a number of distributaries before falling into the sea.

2. **The River-Systems of India.**—The principal rivers of India may be arranged in the following systems :—

I.—THE INDUS-PUNJAB SYSTEM.—The Indus (nearly 1,800 miles long) rising on the western slope of the Kailas mountain, and falling into the Arabian Sea.

The most important *tributaries of the Indus* are :—the Jhelum, Chenab, Ravi, Beas, and Sutlej, which enter the Indus by one channel, called the Panjnad.

Besides these there are—the *Gilgit*, the *Kabul River*, and the *Kuram*, with their own tributaries.

(2) The Luni, coming from the Arravali Hills, and falling into the Rann of Cutch.

II.—THE GANGES-BRAHMAPUTRA SYSTEM.—(1) The Ganges (1,500 miles) rising on the southern slopes of the Himalaya mountains, and falling into the Bay of Bengal.

The most important *tributaries of the Ganges* are :—the Jumna, the Gogra, the Sone, the Ramganga, the Gumti, the Gandak, the Kusi, the Tons and the Karamnasa.

About 200 miles from the sea the Ganges separates into two great streams. The larger, flowing eastward, is called the *Pudma* ; the western is called the *Bhagirathi*, and lower down the *Hugli*, on which stands Calcutta.

(2) The Brahmaputra, rises on the northern side of the Himalayas, and joining the eastern mouth of the Ganges, falls into the Bay of Bengal.

In the upper part of its course it is called the *Sanpu* ; in Assam it is known as *Dihong* ; its western arm is called the *Komai*, and its eastern, the *Meghna*.

III.--RIVERS OF THE DECCAN.—(1) the Narbada, and (2) the Tapti, flowing to the west coast. (3) The Mahanadi, (4) Godavari, (5) Krishna, and (6) Kaveri—flowing to the east coast.

3. **Chief characteristics of the Punjab rivers.**—The Punjab rivers have the following peculiar characteristics:—

- (1) Some of them have no plain stage, others a long one ;
- (2) They flow out of the Himalayan snows into a dry plain and hence become smaller towards their mouth ;
- (3) They flow through a flat plain and hence have a slow current ;
- (4) They flow through sandy and alluvial plains and so cut out new channels for themselves and constantly shift their banks.

4. **Drainage area of the Ganges-Brahmaputra system.**—The tract of country drained by the rivers of the Ganges—Brahmaputra system is bounded by the Himalayas on the north, the Vindhya and their offshoots on the south, and the Patkoi and Lushai Hills on the east.

5.—**Comparison between the Himalayan and Vindhya tributaries of the Ganges—**

- (1) The Vindhya tributaries are snow-fed and hence often dry : the Himalayan tributaries are more full.
- (2) The Himalayan tributaries have a longer plain stage.
- (3) The Himalayan tributaries are also more swift.
- (4) They are more useful for irrigation.
- (5) They come from steeper slopes and flow through less rocky country.

6. **The importance of the Indus-Punjab and the Ganges-Brahmaputra systems.**—These two river systems completely enclose the Himalayan ranges, so that all the rain that

falls on their northern as well as their southern slopes is washed down to India, and so also is all the snow that melts on those mountains. Geographically the Himalayas belong as much to Tibet as to India, but these river-systems bring all the *benefits* of these mountains to India alone.

7. **Drainage area of the Deccan rivers.**—The area of land drained by the Deccan rivers is bounded on the north by the Satpuras, the Vindhya, and Chota Nagpur, and on the west by the Western Ghats.

8. **Peculiar characteristics of the Deccan rivers.**—(1) Their valleys are narrow and deep; (2) they flow through a dry country and hence are shallow; (3) they are of little use for navigation; (4) their deltas are remarkable for their fertility; and (5) some of them are often in flood.

9. **River irrigation in India.**—Irrigation is a most important question in India, because the population is chiefly agricultural and the country has a hot and dry climate. But the *difficulties connected with irrigation* are—

- (1) that irrigation works are unnecessary in parts of the country having a heavy rainfall, *e. g.*, the Ganges valley;
- (2) that the waters of a river can be used for irrigation purposes only in parts having a lower level, *e. g.*, the water of the Indus cannot be made to fertilise the dry tracts of Rajputana;
- (3) irrigation works are very expensive.

Canal irrigation in India is still at its infancy. The only province where this is carried on on a sufficiently large scale is the Punjab, where a large percentage of the waters of the Indus are used for purposes of irrigation. But it is in the Deccan (on the

Palar, the Kaveri, and the South Pennar) that the largest percentage of river water is used for irrigation. In the United Provinces of Agra and Oudh, Canal irrigation is carried on from the Ganges Canal and the Jumna Canal. The Upper Ganges Canal which has been in existence for upwards of fifty years, has been cut near Hardwar, the place where the Ganges first descends to the plains. The headworks draw off about 6,500 cubic feet of water per second, and this immense quantity of water is then carried for over 450 miles in main Canals, and for 4,500 miles through smaller distributaries, that irrigate an aggregate area of 1,500 square miles. Further down, there is another Canal, called the Lower Ganges Canal, and these two together water the whole of the region between the Ganges and the Jumna.

CHAPTER IV.

PRODUCTS AND INDUSTRIES.

I. PRODUCTS.

(a) CROPS USED AS FOOD.—

- (1) Rice.—Grown in Bengal, Eastern Bengal, Burma, Madras and the United Provinces;
- (2) Millets, Pulses, &c.—Grown nearly all over India, but not in places where wheat or rice can flourish;
- (3) Wheat.—the United Provinces, the Punjab, and parts of the Central Provinces;
- (4) Barley.—the United Provinces;
- (5) Sugar.—the United Provinces, Bengal, Eastern Bengal, the Punjab, Madras;
- (6) Spices.—Malabar and Travancore;
- (7) Tea.—Assam, Darjiling, the Kangra Valley, Dehra Dun, and the Nilgiri and Palnri Hills;

- (8) Coffee.—Coorg, Mysore, Travancore, Cochin, and the Nilgiris.
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(b) CROPS USED FOR OTHER PURPOSES—

- (1) Cotton.—Gujarat, Kathiawar, the valleys of the Central Provinces, Berar, Coimbatore, and Tinnevely ;
 - (2) Jute.—the lower valleys of the Ganges and Brahmaputra, Assam, and Madras ;
 - (3) Indigo.—the United Provinces, Behar, Madras, and the Panjab ;
 - (4) Opium.—the United Provinces, Behar, Rajputana, and Baroda ;
 - (5) Tobacco.—Bengal, Eastern Bengal, the United Provinces, Madras, and Burma ;
 - (6) Cinchona.—the Nilgiris, Mysore, Travancore, and Darjiling ;
 - (7) Silk.—Bengal, and Assam ;
 - (8) Lac.—Chota Nagpur, and Assam.
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(c) FORESTS.

- (1) The Teak.—the Western Ghats, Assam, and Burma ;
- (2) The Sal.—the Eastern Himalayas, Central India, and the Western Ghats ;
- (3) The Deodar.—the Himalayas ;
- (4) Pines.—the Himalayas, and the Nilgiris.

II. INDUSTRIES.

Manufactures are at present in their infancy in India. There are numerous cotton mills and jute mills in Bombay, jute mills in Bengal, woollen mills in Cawnpore and Dhariwal, and paper mills in Bengal and Lucknow. Native industries are chiefly for

supplying local wants. Besides these there are some for producing rich fabrics like gold and silver brocades, carpets, fine muslins, jewellery, ornamental work in metals, ivory and ebony, &c.

CHAPTER V.

THE PEOPLE.

1. The Population of India.—The population of India according to the census of 1911 is about 315 millions. The densest population is in the two Bengals and the U. P. of Agra and Oudh.

2. Circumstances determining population in India.—The following circumstances determine the *density of population* in India :—

- (1) abundance of rainfall;
- (2) certainty of rainfall;
- (3) productiveness of the soil;
- (4) security from attacks of enemies.

3. Influences shaping the character of the people in India.—The following influences have shaped the *character of the population* in India :—

(1) the existence of mountains, which act as barriers between district and district, preventing intercourse and intermixture of the people of different parts. They also act as a refuge for wild aboriginal tribes, such as the Gonds of Chota Nagpur, and the Todas of the Nilgiris;

(2) the presence of navigable rivers, whose valleys have always and everywhere been centres of trade and civilization;

(3) absence of seas and gulfs indenting the coast of India, the result of which is that India has never bred a race of hardy and adventurous seamen;

(4) the warm climate and fertile soil, which afford an easy livelihood, partly explain why India has not advanced in the race of civilization.

4. Distribution of population.—The vast majority of the population (90 per cent.) live in villages, and only 10 per cent. in towns. This is due to two causes :—

- (1) India is almost entirely an agricultural country ;
- (2) She has few mineral resources, and few great industries.

5. Origin of Towns.—Indian towns derive their importance from one or more of the following causes :—

- (1) their having been ancient Hindu, Mohamedan, or Mahratta capitals.
 - (2) their being sacred places of pilgrimage ;
 - (3) their being old centres of trade on a river ;
 - (4) their having been sites of European factories ;
 - (5) their being centres of local provincial governments ;
 - (6) their being harbours.
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CHAPTER VI.

GOVERNMENT AND ADMINISTRATIVE DIVISIONS.

1. Government of British India.—The Government of India is carried on by the Secretary of State for India and his Council in England, and the Viceroy and his council in India. Madras and Bombay have Governors appointed by the Crown, and Councils to help them. Bengal, Eastern Bengal and Assam, the United Provinces, the Panjab, and Burma are under Lieutenant-Governors. The Central Provinces are under a Chief Commissioner, with powers like a Lieutenant-Governor's. Coorg, Ajmere-Merwara, British Beluchistan, the North-west Frontier

Province, and the Andamans are also under Chief Commissioners, but with limited powers.

Legislation is carried on by the Viceroy's Legislative Council. Madras, Bombay, Bengal, the U. P. the Punjab, and Burma have local legislatures, which enact laws of local application.

2. Native states :—

Native states are governed by their own rulers under the protection of the British Government. Their relations with the paramount power are settled by treaties, and are of the following nature :—

- (a) they cannot have political dealings with foreign powers ;
- (b) they are under the protection of the British ;
- (c) they can manage their internal affairs as they like, but Government have the right to interfere in cases of necessity.

3. Administrative Divisions of India :—

The Administrative Divisions of India are as follows :—

(1) *British India*, comprising Bengal, Eastern Bengal and Assam, the United Provinces of Agra and Oudh, the Punjab, Ajmere-Merwara, the Central Provinces and Berar, Bombay, Madras, Coorg, and the Andaman and Nicobar Islands ;

(2) *Native States*, comprising the Rajputana Agency, the Central India Agency, Hyderabad, Mysore, Baroda, and others included in British territory ;

(3) *Frontier India*, including Beluchistan, the North-west Frontier Province, Kashmir, Nepal, Bhutan, Sikkim, the Assam border tribes, and Manipur ;

(4) *Burma*, including Upper and Lower Burma ;

(5) *Frontier Burma*.

SECTION I.—BRITISH INDIA.

(A.)—BENGAL.

I.—GEOGRAPHICAL SITUATION.

Bengal is bounded on the *north* by Nepal and Tibet, on the *east* by Eastern Bengal and Assam, on the *south* by the Bay of Bengal and Madras, and on the *west* by the U. P. and the C. P.

II.—CHARACTER OF THE COUNTRY.

Bengal consists of—

- (1) the deltas of the Ganges and the Mahanadi ;
- (2) the Gangetic plain ;
- (3) the hill country of Chota Nagpur ;
- (4) the coast-strip from the Hugli to the Chilka Lake.

The only *mountainous regions* are :—(1) the Chota Nagpur highlands, stretching up to the Ganges in the Rajmahal Hills—Highest peak, Paresnath. (2) the Sikkim Loop, in the north.

III.—RIVERS LAKES AND ISLANDS.

(1) The Ganges, with its tributaries the *Sone*, the *Gandak*, the *Kusi* ;

(2) the Mahanadi, with its tributaries the *Subarnika*, *Baitarni* and *Brahmini*.

The only *lake* is the Chilka Lake, on the borders of Madras and Bengal. There are many islets at the mouth of the Ganges delta, of which the most remarkable are Sagar and Diamond Island.

IV.—CLIMATE SOIL, AND PRODUCTS.

The *climate* is hot and damp, though half the province is in the Temperate Zone.

The *rainfall* is abundant and unfailling, and is during the summer monsoon.

The *soil* is very fertile, being mostly alluvial. The products include almost every crop grown in India, and two or three harvests are reaped in a year.

The Bengals (*i. e.* Bengal proper and Eastern Bengal and Assam) stand first among the provinces of India for the production of *rice, jute, oil seeds, indigo, and tobacco*.

Millets, maize, and pulses, spices, sugar-cane, and opium, are also largely grown, but not wheat and barley.

V.—DIVISIONS.

- (1) Bengal Proper,—*i. e.* the delta country ;
- (2) Behar,—*i. e.* the Ganges valley in the north-west ;
- (3) Orissa,—*i. e.* the coast strip of the Mahanadi delta ;
- (4) Chota Nagpur,—*i. e.*, the hilly country in the southwest, south of Behar and west of Orissa.

VI.—PEOPLE.

The *population* is over 52½ millions, five-sixth being Hindus and the rest Mohamedans. In Chota Nagpur the people are of the *Dravidian* race ; in and round the Ganges delta they are of a mixed *Dravidian and Mongolian* race ; and in Behar, of a mixed *Dravidian and Aryan* race.

Three Aryan *languages* are spoken,—*Uriya*, in Orissa ; *Behari*, in Behar ; and *Bengali*, in Bengal. The people are very intellectually advanced, but not warlike.

VII.—IMPORTANT TOWNS.

(1) Calcutta (pop. 11 lacs) founded in 1686. It is the capital of India, and stands on the left bank of the Hugli, about 80 miles from the sea.

The following causes have contributed to the greatness and importance of Calcutta :

- (a) it has been the capital of the Indian Empire since 1772 :

- (b) it is the greatest commercial and trading centre of Asia ;
- (c) it lies close to wide fertile plains, and in the midst of a rich delta where famine is unknown ;
- (d) it is easily reached from all the most important parts of Northern India ;
- (e) it is the place where the roads, railways, and waterways of the country meet the great highway of the ocean ;
- (f) it is, next to Bombay, the greatest manufacturing city in India.

1.—In Bengal proper.

- (2) Hugli and Chinsurah, having good river traffic ;
- (3) Chandarnagar, near Hugli, belongs to the French ;
- (4) Murshidabad, the capital of Bengal under the Nawabs, and named after Murshid Kuli Khan ;
- (5) Darjiling, an important hill-station, and the seat of the Bengal Government during the hot weather ;
- (6) Ranigunj, the centre of the largest coal-field in India.

2.—In Behar.

- (7) Patna, on the right bank of the Ganges, near the mouths of the Sone, Gogra, and Gandak. The civil station is Bankipur and the cantonments, Dinapur.
- (8) Gaya, a celebrated place of Hindu pilgrimage ;
- (9) Monghyr, near a low range of hills, on the Ganges ;
- (10) Bhagalpur, the chief town of the Bhagalpur division ;
- (11) Mozaffarpore and Darbhanga, lying north of the Ganges.

3.—In Orissa.

- (12) Cuttack, the chief town, celebrated for its silver filigree work ;
- (13) Puri, famous for the temple of Jagannath ;
- 14) Chandbali, and Balasore, two small seaports.

4.—*In Chota Nagpur.*

(15) Ranchi, the chief town, situated on an elevation ;

(16) Hazaribagh, on the other side of the Damodar valley, is famous for its mica mines.

VIII.—NATIVE STATES OF BENGAL.

(1) The Tributary Mahals of Orissa consist of 17 small states, of which Mourbhunj is the largest. The country is a rugged tract of hill and jungle, and a large part of the population belongs to aboriginal tribes.

(2) The Chota Nagpur States, numbering two, are also hilly.

IX.—HISTORY.

Shah Alam conferred the *Diwani* (right of collecting the land revenue) of Bengal, Behar, and Orissa, on the East India Company, in 1764, and from that year we must date the foundation of the British province of Bengal. Other tracts were added on as conquests went on. In 1905 Eastern Bengal was separated, and along with Assam, constituted a new province.

(B.)—EASTERN BENGAL AND ASSAM.

I.—GEOGRAPHICAL SITUATION.

Eastern Bengal and Assam is bounded on the *north* by Bhutan and Tibet, on the *east* by Burma, and on the *west* by Bengal proper.

II.—CHARACTER OF THE COUNTRY.

The province consists of—

- (1) the Brahmaputra plain ;
- (2) the upper Brahmaputra valley and the Surma and Cachar valleys ;
- (3) the Chittagong and Tipperah hill tracts ;
- (4) the Chittagong coast strip.

The only *hills* are :—(1) the Patkoi and Lushai Ranges ; (2) the Jaintia, Khasi, and Garo Hills.

III.—CLIMATE, SOIL, AND PRODUCTS.

Eastern Bengal resembles Bengal proper in climate, soil, and products. The *climate* of Assam is the dampest in India, the rains continuing for eight months in the year. The *soil* is one of the most fertile. The special products of Assam are tea, timber, rice, and India-rubber.

IV.—PEOPLE.

In Eastern Bengal the people are of mixed *Dravidian* and *Mongolian* race, and the great majority are Mohamedans. In Assam the people are of *Tibeto-Burman* race, and the majority are Hindus. Two Aryan languages are spoken, Assamese and Bengali. The Assamese are lazy by character.

V.—IMPORTANT TOWNS.

(1) Dacca, the capital of the province, formerly famous for its fine muslins, and now a great jute centre :

(2) Chittagong, the seaport of the province ;

(3) Sirajgunj, (4) Naraingunj, (5) Goalonda, and (6) Nasirabad, all important centres of jute and rice traffic.

(7) Goalpara,	} commercial towns in the Brahmaputra valley in Assam ;
(8) Gauhati,	
(9) Sibsagar,	
(10) Dibrugarh,	

(11) Sylhet, in the Surma valley, noted for its oranges ;

(12) Silchar, in the Cachar valley, is a centre of tea production;

(13) Shillong, a healthy hill station, and the summer headquarters of the local government.

VI.—NATIVE STATES OF E. B. AND ASSAM.

(1) Manipur, in the Lushai Hills, in the south-east of Assam.

(2) Hill Tipperah, lying in the hills that separate Assam from Burma.

(3) Kuch Behar, at the foot of the Bhutan Hills.

VII.—HISTORY.

A portion of Assam (*viz.*, the Sylhet valley and the Goalpara district) was included in the *Diwani* granted to the East India Company. Another portion was added after the first Burmese War, and a third after the Bhutan War of 1865. In 1874 Assam was separated from Bengal and constituted a province under a Chief Commissioner. In 1905 the Chittagong, Dacca, and Rajshahi divisions of Bengal, the district of Malda, and the state of Hill Tipperah were taken from Bengal and added on to Assam, so as to constitute a new province, named Eastern Bengal and Assam, ruled by a Lieutenant-Governor.

(C.)—THE UNITED PROVINCES OF AGRA AND OUDH.

I.—GEOGRAPHICAL POSITION.

The U. P. of Agra and Oudh are bounded on the *north* by Tibet and Nepal, on the *east* by Bengal, on the *south* by Central India, and on the *west* by Rajputana and the Punjab. The province occupies the upper basin of the Ganges and its tributaries, and is the central province of Northern India.

II.—CHARACTER OF THE COUNTRY.

The province consists of—

(1) *the Himalayan region*, which comprises three ranges of the Himalayas—the Sub Himalayas (here called the Siwaliks), the outer Himalayas, and the inner Himalayas, with the great peaks of Nanda Devi, Kamet, and Badrinath;

(2) *the Vindhya region*, which comprises the Kaimur offshoots of the Vindhya;

(3) *the Great Plain*, which may be divided into two parts:—

(a) the Doab, or country between the Jumna and Ganges, a perfectly level country and exceedingly fertile ;

(b) Oudh, Rohilkhand, and Gorakhpur, which are damper, cooler and more wooded.

III.—MOUNTAINS AND RIVERS.

The only *mountains* are—(1) the *Garhwal Range* ; (2) the *Siwaliks*. The chief *rivers* are the Ganges, Jumna, Ramganga, Sarda, Gogra, Rapti, Gumti, Chambal, Sind, Betwa and Ken.

IV.—CLIMATE, SOIL AND PRODUCTS.

The *climate* is on the whole cooler and drier than that of Bengal, though the hot weather is severer. The *rainfall* is much less than that of Bengal, being heavy on the Himalayas, but only 40 inches over the middle of the province, and less than 30 south of the Ganges. As regards *products* the U. P. are the great grain-growing parts of India (excluding rice). In oil-seeds, spices, and indigo they take an inferior place. Some tea is grown on the Himalayan slopes.

V.—PEOPLE.

The people are of a mixed *Aryo-Dravidian* race, the Hindus being the majority. The language spoken is Hindi. The population is about 47 million.

VI.—IMPORTANT TOWNS.

(1) Allahabad, the capital of the province, stands at the confluence of the Ganges and Jumna ;

(2) Benares, the most ancient and most sacred city in the province, noted for the manufacture of brass vessels, silk cloths, jewels, and toys ;

(3) Cawnpore, the most important manufacturing town in the province ;

- (4) Agra, the ancient capital of the Moghals ;
- (5) Bareilly, the chief city of the Rohilkhand division ;
- (6) Meerut, a city as old as the time of Asoka, and now important only as a military station ;
- (7) Lucknow, the former capital of the Kingdom of Oudh and full of historical remains ;
- (8) Ghazipur, the Government depot for opium ; Mirzapur, noted for the manufacture of shellac ; (10) Kanauj, a centre of ancient Aryan civilization ; (11) Hardwar, where the Ganges enters the plains ; (12) Muttra, a sacred Hindu city with fine temples ; (13) Moradabad, famed for the manufacture of brass utensils, &c. ; (14) Saharanpur, the headquarters of the Jumna canal establishment ; (15) Roorkee, the seat of the Engineering College ; (16) Aligarh, famous for the Mohamedan College ; (17) Jhansi, an old city and an important railway junction ; (18) Fyzabad, the former capital of Oudh ; (19) Ajodhya, an ancient Hindu capital.

Hill Stations :—(1) Mussoorie, overlooking Dehra Dun ; (2) Naini Tal, the summer seat of the Provincial Government ; (3) Chakrata, (4) Landour, and (5) Ranikhet.

VII.—NATIVE STATES OF THE U. P.

- (1) Rampur, a small Mohamedan States in Rohilkhand ;
- (2) Tehri, a Hindu State in Garhwal, lying high up in the Himalayas.

VIII.—HISTORY.

This province was first formed by separation from Bengal in 1836. In 1856 Oudh was annexed to it. In 1901, when the new North-west Frontier Province was formed, the name *North-Western Provinces* was changed to the United Provinces of Agra and Oudh.

(D.)—THE PUNJAB.

I.—GEOGRAPHICAL POSITION.

The Punjab is bounded on the *north* by Kashmir; on the *east* by the U. P. (and Tibet); on the *south* by Rajputana; and on the *west* by the North-West Frontier Province.

II.—CHARACTER OF THE COUNTRY.

The Punjab consists of—

- (1) a mountain region in the north-east;
- (2) a tableland (from 1,000 to 2,000 feet high) lying north of the Salt Range and between the Indus and Jhelum;
- (3) a flat plain sloping south-westward.

This plain region is made up of five doabs: (1) the *Sind Sagar Doab*, between the Indus and the Jhelum-Chenab; (2) the *Jetch Doab*, between the Jhelum and Chenab; (3) the *Rechna Doab*, between the Ravi and Chenab; (4) the *Bari Doab*, between the Beas and Ravi; and (5) the *Jullundhar Doab*, between the Beas and Sutlej. Hence the Punjab is called "the land of Doabs."

III.—MOUNTAINS AND RIVERS.

The chief ranges in the Punjab are:—

- (1) the Himalayas, in the north-east;
- (2) the Sulemans, in the west;
- (3) the Salt Range, between the Jhelum and the Indus.

The chief *rivers* are:—

- (1) the Indus; (2) the Panjnad, consisting of the five rivers which give their name to the province; (3) the Saraswati, and (4) the Ghaggar, which lose themselves in the desert.

IV.—CLIMATE, SOIL, PRODUCTS, AND INDUSTRIES.

The *climate* is one of extremes—being very hot in summer and very cold in winter. The *rainfall* is twice in the year, during the summer monsoon and in the winter, and is heaviest on the Himalayan slopes, but grows light towards the west.

The *soil* is on the whole alluvial and fertile; but in the S.-W. there are sandy plains.

The chief *products* are wheat and barley, but millets and pulses, sugar-cane, cotton and rice are also grown. Tea is grown in the Kangra district. The chief *industries* are the mining of salt, the pressing, ginning and weaving of cotton, the grinding of wheat, and the manufacture of carpets (at Amritsar).

V.—IRRIGATION.

The Punjab is famous for its irrigation works. No country in the world has such a magnificent system of canals. The Punjab is well suited for artificial irrigation for the following reasons:—

- (1) the Indus and its tributaries are fed by the perpetual snows of the Himalayas;
- (2) these rivers are spread out over the whole province;
- (3) the flatness of the country allows canals to be dug cheaply from these rivers;
- (4) the soil is rich and the cost of the canals can be soon repaid by larger crops.

VI.—PEOPLE.

The people are nearly pure Aryans in race. The majority of the population (numbering 20 millions) is Mohammedan, and there are many Sikhs. The language spoken is Punjabi.

VII.—IMPORTANT TOWNS.

- (1) Lahore, the capital of the province;
- (2) Delhi, the greatest historical city in India and the capital of the Mohamedan kings;
- (3) Amritsar, the holy city of the Sikhs.

Military Stations.—Amritsar, Mian Meer (now called Lahore Contonments,) Ambala, Ludhiana, Jullundhar, Sialkot, Rawalpindi, and Peshawar.

Trade Centres.—Ludhiana, famous for the manufacture of shawls; Multan, a great exporting city.

Hill Stations.—Simla, the summer capital of India; Dalhousie, in the north-east; Dharamsala, in the Kangra Valley; and Murree.

VIII.—NATIVE STATES.

1.—*In the eastern plains.*—Six Sikh states, Patiala, Jhind, Nabha, Kapurthala, Mandi and Faridkot, and three smaller Mohamedan states.

2.—*The Simla Hill States*—These number 23, of which Bashahar and Chamba are the largest.

3.—Bhawalpur, a large Mohamedan state in the S. W. corner of the Punjab.

IX.—HISTORY.

The present province comprises: (1) the kingdom of Ranjeet Singh, conquered and annexed in 1819; (2) a tract east of the Sutlej which the British had obtained in 1808; and (3) Delhi, which was transferred from the N. W. P. in 1857. In 1901 some districts of the Punjab were taken away to form the North-West Frontier Province.

(E.)—AJMERE-MERWARA.

This little province forms a patch of British territory in the heart of Rajputana. It includes two districts—Ajmere, consisting of an open sandy plain, and Merwara, a hilly country with little cultivation and thin population. The capital is Ajmere, which is also the seat of the Agent of the Governor-General for Rajputana. The population 501,000.

(F.)—THE CENTRAL PROVINCES.

I.—GEOGRAPHICAL POSITION.

The Central Provinces are bounded on the *north* by Central India and Bengal; on the *east* by Bengal and Madras; on the

south by Madras and Hyderabad ; and on the west by Berar, Bombay, and Central India.

II.—CHARACTER OF THE COUNTRY.

The Central Provinces consist of—

- (1) the tableland of the Vindhya in the north ;
- (2) the narrow valley of the Narbada ;
- (3) the tableland of the Satpuras ;
- (4) the great Nagpur plain ;
- (5) a wild rugged country stretching along the left bank of the Godavari.

III.—MOUNTAINS AND RIVERS.

The only mountains in the C. P. are the Satpura Range, running in a westerly direction.

The province is the birthplace of many rivers—the *Narbada* and *Tapti*, flowing out to the west ; the *Wardha*, to the south-east, the *Wainganga* and *Indravati*, to the south ; the *Mahanadi*, to the east ; the *Ken* and *Sone*, to the north.

IV.—CLIMATE, SOIL, AND PRODUCTS.

The *climate* is agreeable in the higher parts, but in the Nagpur plain the summer heat is excessive. The *rainfall* averages 50 inches. Only a third part of the country is cultivated. In the valleys there is some rich soil producing rice and cotton. The Chattisgarh plain is called the “ land of the threshing floors,” for it grows much rice and wheat. The only important *industries* are the spinning and weaving of cotton.

V.—PEOPLE.

The people are *Dravadians* in race and Hindus by religion. The languages generally spoken are *Hindi* and *Marathi*, but the

hill tribes speak *Gondi*, a Dravidian dialect. The population is sparse and numbers nearly 14 millions.

VI.—IMPORTANT TOWNS.

(1) Nagpur, the present capital of the province, and formerly the Maratha capital of the Bhonsla Rajas. Sitabaldi is a European station close to Nagpur ;

(2) Kampti, the chief military station of the province ;

(3) Jubbulpore, near which are the famous Marble Rocks ;

(4) Sagar, another cantonment town ;

(5) Burhanpur, formerly the Mohamedan capital of the Deccan and famous for its manufactures of silk and gold thread ;

(6) Wardha,	} trade towns in the Wardha valley ;
(7) Hinganghat,	
(8) Warora,	
(9) Chanda,	

(10) Pachmarhi, in the Mahadeo Hills of the Satpura Range, 3,500 feet above sea level, is the summer seat of the Government.

VII.—NATIVE STATES OF THE C. P.

These are fifteen in number, of which Bastar, a mountainous region occupying the southern corner of the province, is the largest.

VIII.—HISTORY.

The Central Provinces began to be formed after the Pindari War of 1818. Another portion was added in 1853, when the Raja of Nagpur died childless. In 1905 five Hindi-speaking states of Chota Nagpur were added to the C. P.

(C.)—BERAR.

I.—GEOGRAPHICAL POSITION.

Berar is bounded on the *north* and *east* by the C. P., the Nizam's dominions on the *south*, and on the *west* by Bombay.

II.—CHARACTER OF THE COUNTRY.

Berar is broad valley lying between the Gawilgarh Range of the Satpuras on the north, and the Ajanta Hills on the south.

III.—MOUNTAINS AND RIVERS.

1. *Mountains*.—The Gawilgarh Range and the Ajanta Hills.
2. *Rivers*.—(1) the Purna, flowing westwards into the Tapti ; (2) the Wardha, and (3) Painganga, flowing eastwards into the Godavari.

IV.—CLIMATE, SOIL, AND PRODUCTS.

The *climate* is dry and moderate. The *rainfall* averages 30 to 40 inches. The *soil* in the valley is very fertile. The chief *product* is cotton, for which reason Berar has been called "the very home of the cotton plant." The only *industries* are the ginning, pressing, spinning, and weaving of cotton.

V.—PEOPLE.

The people are of *Dravidian* race and mostly Hindus. The language spoken is Marathi.

VI.—IMPORTANT TOWNS.

- (1) Ellichpur, in the north ;
- (2) Amraoti, the great cotton centre of Berar ;
- (3) Akola, near the centre of the province.

VII.—HISTORY.

Berar was made over to the English in 1853, to defray the cost of the British contingent maintained for the protection of Hyderabad State. In 1902 the Nizam leased it in perpetuity to the British Government for a fixed rent, and it has been attached to the C. P. for purposes of administration.

(H.)—THE BOMBAY PRESIDENCY.

I.—GEOGRAPHICAL POSITION.

The Bombay Presidency is bounded on the *north* by Beluchistan and the Punjab ; on the *east* by Rajputana, Central India, the Central Provinces, Hyderabad, and Madras ; on the *south* by Mysore and Madras ; and on the *west* by the Arabian Sea.

II.—CHARACTER OF THE COUNTRY.

The province consists of a long strip of land along the western sea-coast of Peninsular India, and of the lower basin of the Indus with its delta. It may be divided into five regions :—

(1) Sind, lying between Beluchistan and the Rann of Cutch, and consisting of a flat sandy desert ;

(2) Gujarat, including the peninsulas of Kathiawar and Cutch, and a broad strip of plain up to the mouth of the Luni ;

(3) The coast strip, extending from the Narbada down to the southernmost part of the presidency, and including the North Konkan and South Konkan coasts, Goa, and North Kanara ;

(4) Bombay Deccan, a long strip of elevated land lying behind the Western Ghats, and extending from the Narbada to the Krishna ;

(5) Bombay Karnatik, lying south of the Krishna, and including Dharwar, the centre of a great cotton-growing district.

III.—MOUNTAINS AND RIVERS.

1. *Mountains.*—(1) The Kirthar Range, between Sind and Beluchistan ;

(2) The Malwa Ghats, between Bombay and Central India ;

(3) Part of the Satpura Range, with the *Rajpipla Hills* as their western extremity ;

- (4) The Ajanta or Indhyadri Hills, south of the Tapti ;
- (5) The Western Ghats, running south, parallel to the

coast.

2. *Rivers*.—the Indus, Narbada, Tapti, Mahi, Subarmati, Godavari, Krishna, and Bhima.

IV.—CLIMATE, SOIL, AND PRODUCTS.

Different parts of Bombay have different climates. *Sind* is almost rainless, but grows wheat and barley. *Gujarat* has a warm climate, and grows some cotton and wheat. *Bombay*, the *Deccan*, and *Carnatik*, are very hot and grow millets, pulses, and cotton. The *Konkan* has a very heavy rainfall and grows rice.

V.—PEOPLE.

The people are of mixed *Dravidian* and *Scythian* race. Except in *Sind*, the majority are Hindus. The languages spoken are Sindhi, Gujarati, and Marathi. The Parsis of Persian origin, are scattered all over the presidency. The total population is over 19½ millions.

VI.—IMPORTANT TOWNS.

(1) *Bombay*, originally given to the East India Company by King Charles II, who got it as dowry on his marriage with Catherine of Braganza, the Infanta of Portugal.

The following causes have given its importance to Bombay :—

- (a) it has a magnificent harbour ;
- (b) it is nearer Europe than any large Indian port (except Karachi) ;
- (c) it is the centre through which most of the trade of India with Europe and Africa passes ;
- (d) it is nearer the centre of India than any other port ;
- (e) it is the great cotton centre of India.

(2) *Karachi*, an important seaport at the extreme west end of the Indus delta.

Karachi owes its importance to the following causes :—

- (a) it has a good natural harbour ;

(b) it is the sea-outlet for the trade of the Indus valley, and the traffic from across the N.-W. Frontier ;

(c) it is the nearest Indian port to Europe ;

(d) it is the port from which troops from England can be most easily and quickly sent to the N.-W. Frontier ;

(e) it is the great port for shipping the wheat crops of the Punjab to all parts of the world.

(3) Ahmadabad, the old capital of the Mohamedan state of Gujarat, and an important manufacturing town now ;

(4) Surat, the first English settlement in India ;

(5) Poona, the old capital of the Peshwas, and now a large military station ;

(6) Baroda, the capital of the Gaekwar,

(7) Daman (a Portuguese town),

(8) Broach, near the mouth of the Narbada,
has a great cotton trade,

(9) Bhavnagar,

10) Cambay, at the head of the Gulf of Cambay,

} on the Gulf
of Cambay ;

(11) Diu (a Portuguese town) ;

(12) Dhulia, the chief town in Khandesh ;

(13) Rajkot, the seat of a famous Chief's College ;

(14) Bhuj, the capital of Cutch State ;

(15) Marmagao (a Portuguese town),

(16) Karwar, a seaport, south of Goa,

} on the Konkan
coast ;

(17) Ahmadnagar, and (18) Bijapur, capitals of old Mohamedan kingdoms ;

(19) Sholapur,

(20) Hubli,

(21) Dharwar,

} cotton towns in the Bombay Car-
natik ;

(22) Mahabaleshwar, a hill-station on the Western Ghats.

VII.—NATIVE STATES OF BOMBAY.

The native states of this province number 363 separate chiefships, distributed as follows :—

(1) *In Sind*—Khairpur, the largest, ruled by the Mirs, once the rulers of Sind.

(2) *In Gujarat*—Cutch state, between the sea and the Rann of Cutch.

Baroda under the Gaekwar, is a most enlightened native state, having its capital at Baroda, and its military station at Deesa.

The Kathiawar States number 188, the rest being grouped round the Polanpur, Mahi Kantha, Rewa Kantha, and Surat Agencies.

(3) *In N. and S. Konkan*—Janjira and Savantwadi.

(4) *In the Bombay Deccan*—Bhor.

(5) *In the Bombay Carnatik*—Kolhapur, the largest.

VIII.—HISTORY.

The Bombay Presidency was formed in the following way, step by step :—

(1) *Surat*, the first English settlement in India ;

(2) *Bombay*, presented to the East India Company by Charles II ;

(3) Four islands, including *Salsette* and *Elephanta*, acquired by the Treaty of Salbye, 1782 ;

(4) *Surat*, *Broach*, and *Kaira*, acquired by the Treaty of Bassein, 1802 ;

(5) *Konkan*, the *Bombay Deccan*, and *Carnatik*, acquired after the Third Mahratta War ;

(6) *Sind*, conquered and annexed in 1843.

(I.)—THE MADRAS PRESIDENCY.

I.—GEOGRAPHICAL POSITION.

The Madras Presidency is bounded on the *north* by Bombay, Mysore, Hyderabad, the C. P., and Bengal; on the *east* by the Bay of Bengal; on the *south* by Palk Strait and the Gulf of Mannar; and on the *west* by the Arabian Sea.

II.—CHARACTER OF THE COUNTRY.

The Madras Presidency consists of—

- (1) the *East Coast Plain*, the northern part of which is called the *Northern Circars*, and the southern, the *Carnatik*. The eastern coast is called the *Caromandal*;
- (2) the *West Coast Strip*, which is called the *Malabar coast*;
- (3) the *Madras Deccan*.

III—MOUNTAINS, RIVERS, LAKES, AND ISLANDS.

1. *Mountains*.—(1) the Western Ghats; (2) the Nilgiris; (3) the Anamalais; (4) the Serumalais and Falni Hills; (5) the Nagari Hills and (6) the Shevaroy, offshoots of the Eastern Ghats.

2. *Rivers*.—the Godavari, Krishna, North Pennar, Palar, South Pennar, Kaveri, Vajjai, Tambraparni.

3. *Lakes*.—(1) the Kolar Lake, between the deltas of the Godavari and Krishna; (2) Pulicat Lake, north of Madras.

4. *Islands*.—(1) the Laccadive Islands, an administrative (not geographical) division of Madras; (2) Rameswaram, famous for a Hindu temple.

IV—CLIMATE, SOIL, AND PRODUCTS.

The *climate* of Madras is more uniformly hot than that of other parts of India. The *rainfall* on the Travancore and Malabar

coasts exceeds 100 inches. The rest of the province has an annual rainfall of 30 to 50 inches. The *products* are chiefly agricultural. Rice is grown in the Godavari, Krishna and Kaveri deltas, and on the west coast. The other crops grown are millets, oil-seeds, cotton, sugar cane, spices, tobacco, tea, coffee, indigo, and cinchona.

V.—PEOPLE.

The people are of *Dravidian* race and mostly Hindus. The languages spoken are Tamil, Telegu, and Malayenam. The total population is about 41½ millions.

VI.—IMPORTANT TOWNS.

(1) Madras founded in 1639, having a harbour, but not of much importance for industries or trade ;

(2) Madura, the capital of the ancient Pandyan kingdom, and a great religious centre ;

(3) Trichinopoly, famous for its cigars and jewellery ; Near it is Srirangam which contains the largest temple in India ;

(4) Tanjore, an old capital with a famous temple and jewellery manufacture ;

(5) Salem, an important agricultural centre ;

(6) Bezwada, at the head of the Krishna delta ;

(7) Bellary, a military station ;

(8) Dindigal, famous for a cigar factory ;

(9) Coimbatore, near the foot of the Nilgiris.

Towns on the east coast.—Kalingapatam, Bimlipatam, Vizagapatam, Cocanada, Masulipatam, Pondicherry, (a French town), Cuddalore, Negapatam, and Tuticorin.

Towns on the west coast.—Quilon, Cochin, Beypore, Calicut, Tellicheri, Cannanore, and Mangalore.

Hill stations.--Ootacamund, Coonoor, Wellington, on the Nilgiris;

Kodaikanal, on the Palnais : Yercaud, on the Shevaroy's.

VII.—NATIVE STATES.

(1) Travancore, a Hindu state, occupying the southernmost part of the Malabar coast, between the Arabian Sea and the Western Ghats. The *capital* is Trivendrum. Quilon and Alleppi are seaports.

(2) Cochin, a smaller state to the north of Travancore. The *capital* is Ernakulam.

(3) Pudukota, near Trichinopoly, is a small chiefship.

(4) Banganapalle, { in the Ceded Districts, are also small
(5) Sunder, { chiefships.

VIII.--HISTORY.

The Madras Presidency was formed in the following way, step by step :--

(1) The site of Fort St. George was purchased from a petty raja in 1639 ;

(2) the Chengalepat district was granted by the Nawab of the Carnatik in 1763 ;

(3) the Northern Circars were ceded by Shah Alam in 1765 ;

(4) Malabar, Salem, and Madura were obtained after the Second Mysore War, in 1792 ;

(5) Kanara, Coimbatore, and the Nilgiris were acquired after the Third Mysore War, in 1793 ;

(6) Tanjore was made over in 1799 ;

(7) Anantpur, Karnul, Bellary and Cuddapah were ceded by the Nizam in 1800 ;

(8) the remainder of the Nawab of Carnatik's territories were acquired in 1801.

(J.)—COORG.

Coorg is a small state lying to the S.-W. of Mysore. The *chief town* is Mercara. The *climate* is like that of Mysore, but with a heavier rainfall. The chief *products* are rice, coffee, and cardamoms.

Coorg was annexed in 1834, in pursuance of the wish of its own people.

(K.)—THE ANDAMANS.

The Andamans and the Nicobars lie on the eastern side of the Bay of Bengal.

They are administered by a Chief Commissioner.

Port Blair in the Great Andamans is a penal settlement to which convicts from India are sent.

SECTION II.—NATIVE STATES.

(A.)—RAJPUTANA.

I.—GEOGRAPHICAL POSITION.

Rajputana is bounded on the *north* by the Punjab ; on the *east* by the U. P. and Central India ; on the *south* by Central India and Bombay ; and on the *west* by Sind.

II.—CHARACTER OF THE COUNTRY.

The country is divided into two unequal parts by the Aravalli Hills. North-west of it is a great plain with occasional sand-hills. The strip along the north-western boundary is called the Thar, or Great Indian Desert. East of the Aravallis the country is a tableland, which is mostly cultivated.

III.—MOUNTAINS, RIVERS, AND LAKES.

1. *Mountains*.—(1) The Aravalli Hills, which run across the country from the south-west to the north-east; (2) the Malwa Ghats, running S.-E. from the southern end of the Aravallis to the Vindhya.

2. *Rivers*.—(1) the Luni on the N.-W.; (2) the Chambal, on the S.-E.; (3) the Subarmati; (4) the Mahi, flowing into the Gulf of Cambay.

3. *Lakes*.—Sambhar Lake, near Jaipur, is a salt lake yielding large quantities of salt yearly.

IV.—CLIMATE, SOIL, AND PRODUCTS.

The *climate* is, on the whole, dry, and on the south-west very extreme. In the north-west the soil is poor, and only wheat or barley and millets can be grown. In the south-east the country is more fertile. On the whole, Rajputana is a poor agricultural country, and is often visited by famine.

V.—DIVISIONS.

(1) Udaipur, the parent state, occupies a hilly tableland at the southern end of the Aravallis. The ruler belongs to a family which ranks first among the Rajputs of all India, and which boasts that it has never given a daughter in marriage to an Emperor of Delhi.

(2) Jodhpur, to the north-west of the Aravallis, is the largest state.

(3) Jaisalmir, and (4) Bikanir, are large states in the extreme west, occupying the most thinly populated tract in all India.

(5) Jaipur lies on both sides of the northern Aravallis. It is the most populous state in Rajputana.

(6) Alwar, (7) Bharatpur, (8) Dholpur, (9) Karauli, (10) Bundi, (11) Tonk, (12) Kotah, and (13) Jhalawar, are smaller states in eastern Rajputana.

VI.—PEOPLE.

The Rajputs are nearly pure *Aryans*, and almost all of them are Hindus. The total population of the Rajputana States in 1911 was 10½ millions.

VII.—IMPORTANT TOWNS.

- (1) Jaipur, one of the finest Hindu cities in India ;
- (2) Ajmere, the capital of the British province of Ajmere-Merwara ;
- (3) Udaipur, one of the most picturesque cities in India ;
- (4) Jaisalmir, (5) Bikanir, (6) Jodhpur, in the west ;
- (7) Tonk, (8) Kotah, (9) Bundi, lying on the Banas Chambal plateau ;
- (10) Dholpur, on the Chambal, in the east ;
- (11) Chittor, formerly the capital of Udaipur ;
- (12) Mount Abu, at the southern end of the Aravallis, is a sanatorium.

VIII.—HISTORY.

Rajputana is the country where the Rajputs found refuge when driven out of Hindustan by the Mohamedans. It comprises twenty states, with the small British district of Ajmere-Merwara in the middle. After the third Mahratta War, Lord Hastings carried out the pacification of Central India and Rajputana. In 1818 most of the Rajput chiefs entered into subsidiary treaties with the British Government, by which they agreed to accept British protection and pay tribute.

(B.)—CENTRAL INDIA.

I.—GEOGRAPHICAL POSITION.

Central India is bounded on the *north* by Rajputana and the U. P. ; on the *east* by Bengal and the C. P. ; on the *south* by the C. P. and Bombay ; and on the *west* by Bombay and Rajputana.

II.—CHARACTER OF THE COUNTRY.

Central India forms part of the hilly tableland watered by the right bank tributaries of the Jumna and by the Sone, sloping down to the Jumna and Ganges valleys. The western part comprises the eastern half of the Malwa plateau, sloping north-east from the Vindhya to the Jumna valley. The eastern part—Bundelkhand and Baghelkhand—slopes northward towards the Jumna and Ganges valleys.

III.—MOUNTAINS AND RIVERS.

1. *Mountains*.—(1) the Vindhya, near the southern border ; (2) the Satpuras, in the south-west corner ; (3) the Kamur Range, a continuation of the Vindhya along the left bank of the Sone.

2. *Rivers*.—The Chambal (with its tributaries the Kali-Sind and Parbati) the Sind, Betwa, Narbada, Dhasan, Ken, Tons, and Sone.

VI.—CLIMATE, SOIL, AND PRODUCTS.

In the north the climate resembles that of the neighbouring districts of Rajputana and the U. P., in the south it is less extreme. The *rainfall* is good, being about 30 to 40 inches in the western, and 40 to 50 in the eastern, half. The *products* comprise millets, pulses, rice, wheat, cotton, sugar-cane, opium and tobacco.

V.—DIVISIONS.

1. *Western Division*.—(1) Gwalior ; (2) Indore ; and (3) Bhopal.

2. *Eastern Division*.—(1) Panna ; (2) Rewah.

VI.—PEOPLE.

The people are mostly of *Dravidian* stock and Hindus, speaking the *Hindi* language. About one-fourth of the population consists of aboriginal tribes, such as the *Gonds* and *Bhils* in the Satpura Hills. The total population $9\frac{1}{3}$ millions.

VII.—IMPORTANT TOWNS.

(1) Gwalior, the capital of the Maharaja Sindhia, famous for its rock fortress ;

(2) Ujjain, the ancient capital of Malva ;

(3) Neemuch, a military station ;

(4) Indore, the capital of the Maharaja Holkar. Near it is Mhow, the largest military station in Central India ;

(5) Bhopal, the capital of the Begum of Bhopal ;

(6) Panna, formerly famous for diamonds ;

(7) Rewah, the largest town in Baghelkhand.

VIII.—HISTORY.

The states of Central India, numbering 143, stand as they did in the time of the Peshwas, whose claims of suzerainty passed to the British after the Third Mahratta War.

(C.)—HYDERABAD.

I.—GEOGRAPHICAL POSITION.

Hyderabad is situated in the heart of Peninsular India, being bounded on the *north* by Bombay, Berar and the C. P. ; on the

east by the C. P. and Madras ; on the *south* by Madras ; and on the *west* by Bombay.

II.—CHARACTER OF THE COUNTRY.

The country forms a tableland averaging about 1,250 feet in elevation, sloping nearly north-west to south-east.

III.—MOUNTAINS AND RIVERS.

The only *mountain* is the Balghat Range. The chief *rivers* are—(1) the Godavari, with its tributaries the Dudna, Purna, Pranhita, Manjira ; (2) the Paingana ; (3) the Krishna, with its tributaries the Bhima and Tungabhadra.

IV.—CLIMATE, SOIL, AND PRODUCTS.

The *climate* is dry, the rainfall being about 30 or 40 inches. The *soil* is not very fertile, and the chief *products* are wheat, rice, millets, oil-seeds, indigo, and cotton. The population is $13\frac{1}{2}$ millions.

V.—PEOPLE.

The people are mostly *Dravidians* and the language spoken is Marathi, Kanarese and Telegu.

VI.—IMPORTANT TOWNS.

(1) Hyderabad, the capital, one of the most populous cities in India. The population is most varied and warlike.

(2) Secunderabad, the largest military cantonment in India ;

(3) Golconda, an old capital, formerly famous for its trade in diamonds.

(5) Aurangabad, another old capital ;

(7) Daulatâbad, (8) Warangal, also old towns.

In the N-W. corner two villages **Ellora** and **Ajanta** are famous for rock-cut temples of Jain and Budhist art. Near them lies **Assaye**, the famous Mahratta battle-field.

VII.—HISTORY.

The kingdom of Hyderabad was founded by Asaf Jah, who was appointed Mogul Subedar of the Deccan in 1713. At his death in 1748 his dynasty had established themselves firmly in Hyderabad. The title of *Nizam* has become hereditary in this family. The relations of this state with the British Government are regulated by a series of treaties, of which the first was made in 1759 and the last in 1902.

(D.)—MYSORE.

I.—GEOGRAPHICAL POSITION.

Mysore is surrounded on all sides by the Madras Presidency, except on the north-west where it touches Coorg.

II.—CHARACTER OF THE COUNTRY.

Mysore is an undulating tableland, over 2,000 feet above sea-level. The country is famous for high hills called "doorgs," rising singly above the level of the tableland. Mysore is popularly divided into two regions (1) the Malnad, or the high rugged uplands of the Western Ghats, and (2) the Maidan, or the undulating and more level plains of the east.

III.—MOUNTAINS AND RIVERS.

Beyond the high ridge (3,000 feet) which constitutes the waterparting of the country, there are no mountains in Mysore. The chief rivers are:—

- (1) The Tanga, the Bhadra, Vedavati, and the N. Pennar—*flowing northward*;
- (2) the Palar and S. Pennar—*flowing eastward*;
- (3) the Kaveri and its tributaries—*flowing southward*.

IV.—CLIMATE, SOIL, AND PRODUCTS.

The *climate* of Mysore is moderated by its elevation, and in many parts it is agreeably temperate. The *rainfall* is very heavy

in the Western Ghats, but in the Maidan it is about 30 inches. The chief *products* are *ragi* (a kind of millet), which is the staple food of the people, oil-seeds, areca, sandal-wood, sugar-cane, rice, cotton, coffee, cinchona, teak and cardamoms.

V.—PEOPLE.

The people numbering $5\frac{3}{4}$ millions are *Dravidians* and mostly Hindus. The language spoken is Kanarese.

VI.—IMPORTANT TOWNS.

- (1) Mysore, the capital of the state ;
- (2) Bangalore, more than 3,000 feet above the sea, is an important military cantonment ;
- (3) Seringaptam, famous as the stronghold of Hyder Ali and Tipu Sultan ;
- (4) Kolar, celebrated for its gold mines.

VII.—HISTORY.

The present dynasty was set up by the British in 1799, after the last Mysore War. In 1831, owing to misgovernment, the administration of the state was taken over by the British, and was handed back to the Maharaja in 1881.

(E.)—BARODA.

Baroda is a native state in Gujarat. The state consists of four parts, called *prants* ; and the government is one of the most enlightened in India. The population is just over two millions. Long lines of railway have been constructed and primary education is compulsory.

The *history of the state* is as follows :—

Early in the eighteenth century a Mahratta soldier of fortune, whose family name was Gaekwar (or *cowherd*), rose to power, and established his authority over all Gujarat.

SECTION III.—FRONTIER INDIA.

Frontier India consists chiefly of (1) Beluchistan ; and (2) the North-West Frontier Province, which has four parts :—

- (a) the Derajat Frontier, from the Gomal River to the Kurram Valley, including the Tochi and Wana agencies^t, inhabited by Waziri tribes ;
- (b) the Kurram Valley, which was acquired in 1892 ;
- (c) the Peshawar Frontier, including the Tirah country, the Mohmand country, and the Bajaur, Dir, Swat, and Buner districts ;
- (d) Chitral, a native state feudatory to Kashmir, but under the control of the British.

The Frontier Policy of the Government of India is to protect India against invasion from the north-west. The N.-W. Frontier Province was formed for this purpose. This has resulted in the gain of three very important objects—(1) troops are concentrated at certain points commanding the passes ; (2) the tribes are not interfered with except under extraordinary circumstances, and they are trained to defend their country ; (3) the traffic in arms and ammunition across the frontier is regulated.

(A.)—BELUCHISTAN.

I.—GEOGRAPHICAL POSITION.

Beluchistan is bounded on the *north* by Afghanistan and the N.-W. F. Province ; on the *east* by the Punjab and Sind ; on the *south* by the Arabian Sea, and on the *west* by Persia.

II.—CHARACTER OF THE COUNTRY.

Beluchistan forms part of the great *Iranian tableland*. It is mountainous and full of deserts. The chief *mountains* are the

Kirthar Mts. on the east, and the Sulemans on the north. Between these lies the *kachhi*, or desert, stretching from the Indus valley into the heart of the country.

The chief *rivers* are the Zob and the Puirali.

III.—CLIMATE, SOIL, AND PRODUITS.

The whole country is very dry and rainless, and so cultivation is carried on by irrigation. The *products* are wheat, millets, and the date fruit.

IV.—PEOPLE.

The population is only $3\frac{3}{4}$ lakhs, all Mohamedans.

V.—DIVISIONS.

- (1) British Beluchistan, comprising certain districts ceded by Afghanistan in 1879 ;
- (2) Native Beluchistan, the larger part of which belongs to the Khan of Kalat.

VI.—IMPORTANT TOWNS.

- (1) Quetta, the capital of British Beluchistan, is situated 28 miles from the northern end of the Bolan Pass.
- (2) Kalat, the capital of Native Beluchistan, 100 miles south of Quetta.

(B.)—THE NORTH-WEST FRONTIER PROVINCE.

I.—GEOGRAPHICAL POSITION.

The N.-W. F. Province is bounded on the *north* and *west* by Afghanistan, on the *east* by Kashmir and the Punjab ; and on the *south* by Beluchistan and the Punjab.

II.—CHARACTER OF THE COUNTRY.

The whole country is full of mountains. The rivers form the only means of communication, the chief of them being—

(1) the Kabul River, with its tributaries the *Chitral*, *Punjkora*, and *Swat* ;

(2) the Kurram ;

(3) the Tochi ;

(4) the Gomal. The Gomal Valley is one of the most frequented routes between India and Afghanistan.

The chief *mountains* are the Hindu Kush, the Safed Koh, and the Waziristan Mts.

III.—CLIMATE, SOIL, AND PRODUCTS.

The province is very dry and rainless, and there is little vegetation or cultivation except in the valley. The population is over two millions.

IV.—IMPORTANT TOWNS.

(1) Peshawar, lying on the main route to Kabul, is important as a military outpost and a trade centre ;

(2) Kohat, commanding the Kurram valley ;

(3) Bannu, commanding the Tochi valley ;

(4) Dera Ismail Khan, near the confluence of the Indus and Gomal ;

(5) Chitral, far north in the Chitral valley ;

(6) Dir, a small military outpost.

V.—HISTORY.

The N.-W. Frontier Province was formed in 1901. It comprises

(1) the Hazara district ; (2) certain districts west of the Indus ;

(4) the frontier agencies of Dir, Swat, Chitral, Khyber, Kurram, Tochi, and Wana.

(C.)—KASHMIR.

I.—GEOGRAPHICAL POSITION.

Kashmir is bounded on the *north* by Chinese Turkestan ; on the *east* by Tibet ; on the *south* by the Punjab ; and on the *west* by the N.-W. Frontier Province.

II.—CHARACTER OF THE COUNTRY.

Kashmir is a land of mountains and valleys. It is divided into two nearly equal parts by the Indus and Gilgit valleys. The name formerly applied only to the celebrated Vale of Kashmir, the summer resort of the Moghal Emperors, but it now includes the whole territory ruled by the Maharaja.

In no country are there such magnificent masses of snow-covered mountains. The chief *mountains ranges* running through Kashmir are—the Kailas or Gangri Range, the Karakorams, the Hindu Kush, and the southern slope of the Kuen Luens.

III.—RIVERS AND LAKES.

The chief *rivers* are :—(1) the *Indus*, with its tributary the Shayok and the Gilgit ; (2) the *Jhelum*, which forms part of the boundary between Kashmir and the Punjab ; (3) the *Chenab*.

The chief *lakes* are—(1) Lake Wulur, the largest fresh-water lake in India ; and (2) Lake Dal. Both are in the Kashmir Valley.

IV.—CLIMATE AND PRODUCTS.

The climate is never very hot, and from October to April it is very cold. The rainfall is very light. The chief *products* are wheat, barley, millets, and pulses. The Kashmir valley is famous for fruits.

V.—PEOPLE.

The people are Aryan, but with a slight admixture of Mongolian blood. The bulk of the population is Mohamedan. The Hindus live in the Hills and are called *Dogras*.

VI.—IMPORTANT TOWNS.

- (1) Srinagar, the capital, is situated near the middle of the Kashmir Valley, on the Jhelum ;
- (2) Jammu, at the foot of the Himalayas ;
- (3) Leh, an important trade centre in upper Kashmir ;
- (4) Islamabad, in the Kashmir Valley ;
- (5) Gilgit, a frontier outpost and British agency.

VII.—HISTORY.

Kashmir was conquered from the Afghans in 1819 by Ranjit Singh, who appointed Golab Singh, a Dogra Rajput, as its Governor. In 1846 the British confirmed Golab Singh in his possessions, and made a treaty with him.

 (D.)—NEPAL.

I.—GEOGRAPHICAL POSITION.

Nepal is bounded on the *north* by Tibet ; on the *east* by Bengal and Sikkim ; on the *south* by the United Provinces and Bengal ; and on the *west* by the United Provinces.

II.—CHARACTER OF THE COUNTRY.

Nepal is a country of mountains and deep valleys, intersected by rivers. The highest peaks of the Himalayas are in Nepal. Along the foot of the Himalayas stretches the *Tarai*, a feverish jungle tract full of big game animals. The chief *rivers* are the Gogra, the Gandak, and the Kosi.

III.—CLIMATE AND PRODUCTS.

The climate is very cold and the rainfall is heavy. The only *products* are rice, millets, tobacco, and oil seeds. There are no industries, but lately trade with India has much increased.

IV.—TOWNS.

The capital is Kathmandu, situated in a valley 4,500 feet high.

(E.)—BHUTAN.

I.—GEOGRAPHICAL SITUATION.

Bhutan is bounded on the *north* and *east* by Tibet; on the *south* by Eastern Bengal and Assam; and on the *west* by Bengal.

II.—CHARACTER OF THE COUNTRY.

The Himalayas fill up most of the country. The best known peak is the Chumalari (24,000 feet). The chief river is the Manas.

III.—TOWNS AND HISTORY.

The capital is Panakha. The *Dwars*, which now forms part of Eastern Bengal and Assam, was taken from Bhutan in 1865. Two military posts in Bhutan, Buxa and Diwangiri, at the foot of the Himalayas, are held by Indian troops.

(F.)—SIKKIM.

Sikkim lies between Nepal and Bhutan. It has been under British protection since 1890, and is governed by a British Political Officer, appointed by the Bengal Government. The *population* is only half a lakh, but the state is politically important, because it touches Tibet. The Chumbi Valley, through which the trade between India and Tibet passes, lies between Sikkim and Bhutan.

(G.)—THE ASSAM BORDER.

This tract is the Himalayan country to the east of Bhutan and north of Assam. It is occupied by a number of unsettled tribes such as the Akas, the Abors, and the Nagas. The state of Manipur has been under British protection since 1891.

SECTION IV.—BURMA.

I.—POSITION AND EXTENT.

Burma is bounded on the *north* by China ; on the *east* by China, French Indo-China and Siam ; on the *south* by the Malay Peninsula and the Bay of Bengal ; and on the *west* by the Bay of Bengal, Bengal and Assam. The *area* is estimated at 234,000 square miles.

II.—SURFACE.

In the north the country is very mountainous ; towards the south there are many river valleys ; and all along the sea-board is a flat coast-strip.

III.—MOUNTAINS.

The principal mountains are :—

- (1) the Arakan Yoma, running south from the Blue mountain in the Lushai Hills ;
- (2) the Pegu Yoma, running south from below Mandalay ;
- (3) the Shan Hills ;
- (4) the Tenasserim Yoma, in the south.

The peculiar features of the mountains of Burma are :—

- (1) the main ranges run north and south, making communication between east and west difficult ;
- (2) they become lower as they go south ;
- (3) they are covered with vegetation as they receive plenty of rainfall.

IV.—RIVERS.

The principal rivers are :—

- (1) the Irawadi, flowing through the heart of the country for more than 900 miles, and navigable by steamers almost throughout, entering the Gulf of Martaban in 14 distributaries, the chief of which are the Bassein River and the Rangoon Channel.
- (2) the Chindwin, the largest of the tributaries of the Irawadi ;
Other *Tributaries of the Irawadi* are—the *Myit-nga* and the *Mn.*

- (3) the Salwin; entering the Gulf of Martaban near Moulmein ;
- (4) the Sitang, lying between the Irawadi and the Salwin.

The rivers of Burma have the following peculiar features :—(1) they all flow nearly due south ; (2) they flow through narrow valleys and so have few tributaries ; (3) they are full and deep for many months in the year, owing to the heavy rainfall of the country.

The Irawadi is the most important river of Burma for the following reasons :—(1) it has the largest drainage area—three-fourths of the whole area of Burma ; (2) it has valleys along its course and spreads into a big delta ; (3) it is navigable up to 800 miles from the sea ; it flows through a fairly well-civilized country.

Y.—COAST AND ISLANDS.

The coast of Burma is more broken than that of India, and has numerous islands lying off it. Cape Negrais, west of the Irawadi delta, is the only important promontory.

The principal islands are the volcanic islands of Ramri and Cheduba,—off the Arakan coast ; the four groups lying between Cape Negrais and Achin Head in Sumatra ; and Preparis, Cocos, Andamans and Nicobar.

VI.—PLAINS AND TABLELANDS.

Burma can be divided into three regions :—

(1) the region of coast strips, that is, the flat, narrow alluvial tracts lying between the sea and the Arakan and Tenasserim Yomas ;

(2) the region of plains and uplands; that is, Central Burma ;

(3) the region of tablelands, that is, the Salwin basin or Shan States.

VII.—CLIMATE.

The greater part of Burma is within the tropics, and the climate generally is hot and damp. On the hills it is more temperate. The rainfall is very heavy (over 150 inches) on the coast-strip ; heavy, in the central districts of Upper Burma ; and moderate over the rest.

VIII.—PRODUCTS AND INDUSTRIES.

1. *Minerals*.—The *ruby* mines in the hills were famous, but are no longer profitable. *Jade* mines and *amber* mines are worked in the extreme north. *Petroleum* is abundant in the Irawadi valley. *Coal*, *marble*, and *tin* are also found.

2. *Vegetables*.—Rice is the staple crop and is grown over most of the cultivated area. Cotton is also grown, and in Upper Burma, maize, millets, and pulses. *Teak wood* is a valuable export.

3. *Industries*.—The chief manufactures are silk and cigars. The characteristic industries are rice-husking, timber-sawing, and wood-carving.

IX.—PEOPLE.

The Burmese belong to the Mongolian *race*, with a slight admixture of Dravidian blood from India. The *population* is over 12 millions. There are many *wild tribes* in Burma, such as—the Shans, the Kachins, the Karens, and the Kakhyens..

X.—TRADE AND COMMERCE.

1. *Imports*.—Cotton goods, metals, machinery, provisions, and silks.

2. *Exports*.—Rice, teak, mineral oil, grain, hides and skins, and India-rubber.

XI.—MEANS OF COMMUNICATION.

Owing to the mountainous nature of the country communication is difficult in Burma. The Irawadi river alone is of any use for navigation. Roads are few in number, and railways also few.

XII.—GOVERNMENT AND TOWNS.

Burma is ruled by a Lieutenant-Governor. The important towns are:—

(1) Rangoon, the capital of Burma. and the third port of the Indian Empire:—

(2) Mandalay, formerly the capital of the king of Upper Burma ;

(3) Ava, an old capital ;

(4) Bhamo, at the entrance of the trade route to China ;

(5) Moulmein, at the mouth of the Salwin, has a great teak trade ;

(6) Bassein, on both sides of the Bassein river ;

(7) Akyab, the third port of Burma ;

(8) Amherst, (9) Tavoy, (10) Mergui, small ports on the Tenasserim coast strip ;

(11) Pegu, a great railway centre ;

(12) Sagaing, (13) Amarapura, (14) Pagan, were ancient capitals.

XIII.—HISTORY.

The province of Burma was formed gradually by annexation after the Burmese Wars. (1) After the first (1824), Arakan and Tenasserim were annexed ; (2) after the second, Pegu including the Irawadi delta ; (3) after the third, Upper Burma. In 1897 it was made a Lieutenant-Governorship.

SECTION V.—FRONTIER BURMA.

Frontier Burma comprises the following :—

I.—Kachin Hills.—The tribes on these hills are left alone, provided they live peacefully.

II.—The Chin Hills.—The tribes on these hills, which lie between Burma and Bengal, are under British administration.

III.—The Shan States.—These are divided into the Northern and Southern States, and are under British administration.

IV.—Karenni.—This land lies on the Salwin river below the Southern Shan States, and is not included in British territory.

SECTION VI.—FOREIGN POSSESSIONS IN INDIA.

I.—FRENCH POSSESSIONS.

- (1) Pondichery, the residence of the French Governor-General, on the Caromandal coast ;
- (2) Karikal, in the Tanjore delta of the Kaveri ;
- (3) Mahe, on the Malabar coast ;
- (4) Yanaon, on the coast of the Godavari delta ;
- (5) Chandarnagar, on the Hugli, twenty miles above Calcutta.

II.—PORTUGUESE POSSESSIONS.

- (1) Goa, on the Konkan coast, south of Bombay. Its port is Marmagao.
- (2) Daman, on the coast of Gujrat ;
- (3) Diu, an island south of the Kathiawar peninsula.

CHAPTER VII.

THE PEOPLES OF THE INDIAN EMPIRE.

I.—The Chief Races.

(1) The Dravidians occupy the south of India principally, but isolated tribes of them are found elsewhere—such as the Santhals of Bengal, the Juangs of Orissa, the Gonds of the Central Provinces, the Konds of the Eastern Ghats, and the Todas of the Nilgiris.

(2) The Indo-Aryans.—This race is now represented by the Rajputs and Jats.

(3) The Aryo-Dravidians.—This race now occupies the country of the Jumna and Ganges upon the outer Himalayas on the north, and down to the slopes of the Central India table-land on the south.

(4) The Mongoloids.—To this race belong the peoples of the part of Kashmir nearest to Tibet, Nepal, Assam, and Burma.

(5) The Mongolo-Dravidians.—The Bengalis are of this type.

(6) The Scythio-Dravidians.—The Mahrattas belong to this type.

(7) The Turko-Iranians.—The Beluchis and Afghans are of this type.

II.—Religions.

(1) Hindus, who number 207 millions.

(2) Mohámedans, who number 62 millions.

(3) Zorastrians, or fire-worshippers, who number 44,000.

(4) Christians, who number nearly 3 millions.

(5) Jews, who are very few in number and are found on the west coast.

(6) Jains, who number about $1\frac{1}{2}$ millions.

(7) Budhists, who number $9\frac{1}{2}$ millions, almost all in Burma.

(8) Sikhs, who number 2 millions.

III.—Languages.

There are in all about 150 different languages spoken in India. These may be divided into three great families.—

(1) the Dravidian languages the most important of which are Tamil, Telugu, Malayalam, Kanarese, and Tulu ;

(2) the Aryan languages, the chief of which are Hindi Bengali, Behari, Uriya, Rajasthani, Gujarati, and Punjabi ;

(3) the Indo-Chinese languages, of which Burmese is the most important.

CHAPTER VIII.

MINERAL PRODUCTS OF THE INDIAN EMPIRE.

India is very rich in minerals. The chief mineral products are :—

(1) Coal—found in Raniganj, Jherria, Giridih, Assam, Warora, and Haidarabad. The annual outturn is 7 million tons.

(2) Iron—found in Salam in Madras, Chanda in the C. P., Rajputana and Bengal.

(3) Gold—found chiefly in Kolar in Mysore.

(4) Mineral oil—found chiefly in Burma.

(5) Salt—obtained from Madras, the Sambhar Lake, and the Salt Range mines in the Punjab.

(6) Tin—found in the Tavoy and Mergui districts of Lower Burma.

(7) Manganese—found in Vizagapatam and the C. P.

(8) Mica—found in Hazaribagh, Madras, and Bengal.

CHAPTER IX.

THE ANIMALS OF INDIA.

1. Animals.—

Wild animals are numerous. The *elephant*, *tiger*, *wild ox*, *buffalo*, *leopard*, *wild cat*, *bear*, *hyena*, *wolf*, *jackal*, *wild dog*, *monkey*, and many kinds of *deer* are found in the jungles of the plains and lower hills. The *elephant*, *buffalo*, and some other large wild animals are not found in the Punjab. The *rhinoceros* is found in Bengal, Assam, and Burma; the *lion* in Gujarat, the *wild ass* in Sind.

2. Birds.—

The birds of India are distinguished by their gay plumage, but singing birds are rare. The *peacock* and the *jungle fowl* are indigenous. *Parrots*, *cranes* of many kinds, *vultures*, *kites*, and *pigeons* are common. The *flori-ken* is a common game-bird. The *maina* is found everywhere, and a hill variety makes an excellent talker.

3. Reptiles.—

Among reptiles there are two kinds of *crocodiles*. The *python* is found in all parts, and poisonous snakes are very common, especially the *cobra* and the *karait*.

CHAPTER X.

MEANS OF COMMUNICATION..

1. Roads.—

The Grand Trunk Road runs from Calcutta to Peshawar, and has numerous branch roads connected with it. There are over 32,000 miles of *pucca* road in the country.

2. Waterways.—

The Indus, Ganges, Brahmaputra, and Irawadi, and their tributaries afford easy useful means of communication. They also provide transport for cheap and bulky goods from one town to another.

3. Railways.—

The Indian railways are useful in various ways :—

- (1) they develope trade ;
- (2) they carry food in times of famine and thus minimise its dangers ;
- (3) they enable troops to be moved quickly to different parts of the country. There are lines connecting—
 - (a) Calcutta with the Punjab and Peshawar,
 - (b) Calcutta with Bombay *via* Allahabad,
 - (c) Bombay with Agra and Allahabad, Jhansi and Lucknow,
 - (d) Bombay with Madras,
 - (e) Madras with the west coast,

(f) Karachi with Lahore and so with Calcutta and the Punjab,

(g) Madras with Calcutta,

(h) Rangoon with Mandalay,

(i) Bengal with Assam,

(j) Rajputana with the U. P., the Punjab and Bombay.

4. Telegraphs.—

Telegraphs as a rule accompany railways, but the Telegraph system is more complete.

CHAPTER XI.

TRADES AND INDUSTRIES OF INDIA.

Trades.

I.—Exports.—

- (1) Rice, chiefly *from* Burma, and *to* England and the Continent, East Africa, Japan, the Straits Settlements, and Natal.
- (2) Wheat, chiefly *from* the U. P. and the Punjab, and *to* England.
- (3) Oil-seeds, sent to France, England, Germany, and Belgium.
- (4) Cotton, to Japan and Europe.
- (5) Jute, to England, Europe, and the United States.
- (6) Opium, to China and the Straits Settlements.
- (7) Tea, to England, Canada, and Australia.
- (8) Indigo, to England, Europe, Japan, and the United States.
- (9) Hides, to Germany, Italy, Austria, France, and the United States.
- (10) Wool, to England.

- (11) Coffee, to England and France.
- (12) Manganese ore, to England and the United States.
- (21) Saltpetre, to America and China.

II.—Imports.—

- (1) Cotton goods, which are by far the largest item of import into India. They come almost entirely from England.
- (2) Metals, from England, Belgium and Germany.
- (3) Machinery, including railway materials,—chiefly from England.
- (4) Hardware and cutlery, mostly from England.
- (5) Mineral oil, from Russia and the United States.
- (6) Silk, from China, Japan, France, and England.
- (7) Woollen goods, from England and Germany.
- (8) Liquors, from England, France, Germany, and Spain.
- (9) Boots and shoes, from England.

Industries.

I.—Indigenous Industries.—

- (1) Handloom Weaving of Cotton Cloth—carried on in Bombay, Arni, Cuddapah, Madura, and Dacca ;
- (2) Silk weaving—the two Bengals and Assam ;
- (3) Handweaving of woollen goods—Kashmir (shawls) Ellore and Masulipatam (carpets) ;
- (4) Woodcarving—Burma ;
- (5) Metal working—Madura, Benares, and Madras.

Besides these, Goldsmiths, blacksmiths, carpenters and potters are found in every village.

II.—Industries carried on in steam factories.—

- (1) Cotton mills—Bombay, Cawnpore, Nagpur, and Ahmabad ;
- (2) Jute mills—the two Bengals ;

- (3) Woollen mills—the United Provinces and the Punjab ;
- (4) Paper mills—Bengal and Lucknow ;
- (5) Flour mills—the U. P., the Punjab, and Sindh ;
- (6) Cotton ginning factories—Bombay, Berar, Madras, the U. P., the Punjab, and the C. P.
- (7) Breweries—the hills of the U. P., and the Punjab.
- (8) Tanneries—Madras and Cawnpore.

III.—Agricultural Industries.—

- (1) Tea factories—Assam, Madras, the U. P., and the Bengals.
- (2) Indigo factories—U. P., Madras, and Bengal.
- (3) Coffee works—Madras.

CHAPTER XII.

CEYLON.

I.—GEOGRAPHICAL POSITION.

Ceylon is an island lying to the south-east of India. In size it is smaller than Mysore, and in shape not unlike a mango.

II.—CHARACTER OF THE COUNTRY.

Ceylon consists of a central core of mountains, surrounded by lower hills and tablelands which slope down to the sea in all directions. The highest peak is Mount Pedro or Pidurutallagalla, 8296 feet in elevation ; but the best known is Adam's Peak. The rest of the island is an almost flat plain which in the north ends in the long peninsula of Jaffna. Ceylon is thus in many ways a " pocket edition " of Southern India.

III.—COASTS AND ISLANDS.

Ceylon has, like India, a very unbroken coast-line, but few important inlets, the chief ones being Trincomalee in the north-east, and Galle Harbour in the extreme south.

The islands lying off the coast of Ceylon are :—

- (1) Manaas, at one end of Adam's Bridge ;
- (2) a few flat unimportant ones off Jaffna ;
- (3) the Maldives, a coral reef to the West.

IV.—CLIMATE AND RAINFALL.

The central and northern parts of Ceylon have a hot and damp climate. Being an island, and lying in the path of the monsoons, every part of Ceylon receives some rain. Only in the north-west and south-east corners, is the rainfall below 50 inches. The rest of the island receives over 50, the amount increasing towards the centre.

Being nearer the equator than India, Ceylon is on the whole hotter than India, and there is less difference between the hot and the cold seasons.

V.—RIVERS.

The principal rivers of Ceylon are :—

- (1) The Mahaweli Ganga, flowing north and entering the sea on the east coast ;
- (2) the Keloni Ganga, flowing west to the sea.

The rivers of Ceylon have the following peculiar characteristics :—

- (a) They flow seaward in all directions ;
- (b) those on the south and west are shorter and more rapid than the others ;
- (c) some of them dry up in the hot weather.

IV.—PRODUCTS AND INDUSTRIES.

1. *Animals.*—

The animals of Ceylon are akin to those of Southern India. The chief varieties are—the cheetah, elephant, wild buffalo, deer, pigs, monkeys, and many kinds of reptile.

IX.—TRADE AND COMMERCE.

1. *Exports*.—Tea, cocoanut, palm, coir, copra, oil, spices, cocoa, and plumbago.

2. *Imports*.—Food-grains, coal, kerosine, cotton cloth, metals, and machinery.

X.—GOVERNMENT AND TOWNS.

Ceylon is ruled by a governor in the name of the king of Great Britain. He is appointed for five years, and is assisted by an Executive Council and a Legislative Council. The country is divided into nine administrative provinces. The chief towns are:—

(1) Colombo, on the west coast, is the capital, and one of the chief coaling places in the world ;

(2) Jaffna, in the extreme north and having a smaller harbour ;

(3) Chiland,	} all fishing and cocoanut towns on the coast ;
(4) Nelgombo,	
(5) Kallutturai,	
(6) Galle,	
(7) Matara,)

(8) Trincomalee, having a fine natural harbour ;

(9) Kandy, an old capital ;

(10) Anuradhapura, in the north, also an old capital and one of the wonders of Ceylon.

XI.—HISTORY.

Ceylon was ruled by its own kings from 543 to 1815. In 1506 the Portuguese first came to Ceylon and held parts of the coast for 150 years. In 1656 the Dutch drove them out and did much to develop the trade of the island. In 1802 Ceylon became a British possession.

Questions on Book VII.

1. In what sense may India be called one country, and in what sense not? Give reasons for your answer.
2. Into how many parts may India be divided in point of relief? Name them and point out the extent of each.
3. How does the seacoast of India differ from that of all other countries? Name the principal openings in the coast, and the chief islands lying round it.
4. Account for the variety of the Indian climate. Enumerate the various circumstances that affect the climate of a place in India. Illustrate your answer by a reference to any of the principal cities of India.
5. Give a full account of the monsoons.
6. State the peculiar characteristics of the rivers of India.
7. Give a list of the chief food-crops grown in India, and name the places where each is cultivated.
8. Name the principal products of India, excluding food-stuffs, and mention the places where each is grown.
9. Enumerate the various influences that have affected the character and density of the population in India.
10. Give a short account of the Government of the Indian Empire.
11. Describe the chief surface features of Bengal and compare them with those of Eastern Bengal and Assam.
12. Enumerate the causes that have contributed to the greatness and importance of Calcutta. Compare Calcutta with Rangoon.
13. Describe the physical features of the U. P. of Agra and Oudh, and state the nature of the climate, the soil, and the chief products.
14. Compare the United Provinces with the Punjab in respect of (1) the character of the country, (2) the people, (3) the products and industries.
15. In what respects is the Punjab unique among the countries of the world?
16. What tract of the Indian Empire is called the Central Provinces? Describe the physical features of the country.
17. Where is Berar? Name some of its important towns, and give a short history of the country.
18. Describe briefly the chief physical features of the Bombay Presidency.

19. Enumerate the causes that have made Bombay such an important city. Compare it with Karachi and Calcutta.
20. Name the chief Native States lying within the Bombay Presidency.
21. Describe the physical features of Madras and compare it with Bombay in this respect.
22. Give a short account of the climate, soil, products, and industries of the Madras Presidency.
23. Where is Coorg? What do you know of it?
24. Give the geographical boundaries of Rajputana, and describe the chief physical features of the country.
25. Name the most important of the Native States of India.
26. What part of the Indian Empire is called Central India? How does it differ from the Central Provinces?
27. Compare Hyderabad and Mysore in respect of (1) physical features, (2) climate, (3) products and industries.
28. What part of the Empire is known as Frontier India?
29. Give the exact boundaries of the North-West Frontier Province, and describe the chief surface features of the country.
30. Describe the physical features of Kashmir, and give a short history of the country.
31. Compare Nepal with Bhutan in respect of its geography.
32. Give the main features of the geography of Sikkim.
33. Give the geographical boundaries of Burma, and describe the chief physical features of the country.
34. Name the chief products and industries of Burma, and mention the principal articles of export and import.
35. How would you account for the fact that Burma has very few towns?
36. What part of the Indian Empire is known as Frontier Burma?
37. Give a complete list of the foreign European possessions in India.
38. Name the chief races inhabiting India, and state in what parts of the country they live.
39. Name the chief mineral products of India and state where they are found.
40. Name the chief indigenous industries of India, and mention the places where each is carried on.

41. Name the Indian industries that are carried on in steam factories, and mention the place where each is found.
42. Describe the means of communication existing in India.
43. Name the principal exports and imports of India.
44. Describe the position, shape and size of Ceylon.
45. Describe the general relief of Ceylon, naming the principal mountains and rivers.
46. Compare the climate of Ceylon with that of India.
47. Give a few of the peculiar characteristics of the rivers of Ceylon.
48. What is the population of Ceylon? Name the various races inhabiting the island.
49. Name the principal industries of Ceylon.
50. Describe the Government and name some of the chief towns of Ceylon.

[THE END.]

APPENDIX.

GEOGRAPHY ACCORDING TO THE PURANAS.

(Contributed by Mahamahopadhyaya Pandit Ganga Nath Jha, M. A.,
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[VISNU-PURANA, Bk. II., CHAP. II.]

The seven greater insular continents are—Jambú Plaksa, Shálmali Kusha, Krauncha, Sháka, Puskara. These are surrounded severally, by seven great seas—Lavana, Iksu, Surá Sarpis, Dadhi, Ksíra and Jala. [There appears to be no justification for translating these names, and regarding the oceans as meant to contain salt, milk, &c.; the names are proper names; and Sanskrit writers are in the habit of substituting other synonyms for words composing proper names.]

Jambú dvipa is in the centre of these; and in the centre of this continent is the golden mountain Meru, 84,000 yojanas (a yojana=8 miles, roughly) above the earth and 16,000 below its surface; its diameter at the summit is 32,000 yojanas, and at its base 16,000.

The chief mountains of the Earth are—Himavat, Hemakúta and Nísadha to the south; Níla, Sheta and Shṛingin to the north; two central ranges extend for a hundred thousand yojanas.

The *Varsas* or countries between the mountain-ranges are—Bhárata, South of the Himavat, Kimpurusa between Himavat and Hemakuta; to the north of Hemakuta, and south of Nisadha, is Hari; all these are to the south of Meru. To the north of Meru is Ramyaka; Hiraṇmaya lies between the Shveta and the Shṛingin ranges. Uttarakuru is beyond the latter. Each of these Varsas

is 9,000 *yojanas* in extent. Of the same dimension is the *Havṛita*, with the *Meru* at its centre. In this last *Varṣa* there are four other mountains, as buttresses to the *Meru*, each 10,000 *yojanas* in elevation :—*Mandara* on the east, *Gandhamādaya* on the south, *Vipula* on the west, an *Supārshva* on the north.

* The country of *Bhadrāshva* lies on the east of *Meru*, and *Ketumāla* on the west. There are also four lakes—*Arapoda*, *Mahabhadra*, *Asitoda*, and *Mānasa*.

The principal mountain-ranges that project from the base of *Meru*, are—*Shītānta*, *Mukuṇḍa*, *Kurari Mālyavat*, and *Vaikanka* on the east; *Trikuta*, *Shishira*, *Patanga*, *Ruchaka* and *Nishadha* on the south; *Shikhivāsā*, *Vaidurya*, *Kapila*, *Gandhamādāna*, and *Jarudhi* on the west; *Shanbhakūta*, *Rishabha*, *Hansa*, *Nāga*, and *Kalanjara* on the north.

The *Gangā* falling from the heavens divides itself into four mighty rivers, flowing in four different directions. These rivers are—(1) The *Sitā*, falling on the east side of *Meru*, passing through the country of *Bhadrashva*, falls into the ocean; (2) the *Alaknandā* flows southwards to the country of *Bhārata* and dividing itself into seven rivers in the way, falls into the sea; (3) the *Chaksu* traversing over the western mountains falls into the sea; (4) the *Bhadra* washes the country of *Uttara-kuru* and empties itself into the Northern Ocean.

The *Meru* lies between the *Nila* *Nishadha*, *Mālyavat* and *Gandhamādāna* mountains, like the pericarp of a lotus. The countries of *Bhārata*, *Ketumāla*, *Bhadrāshva*, and *Uttarakuru* lie like leaves of the lotus, exterior to the bounding mountains. *Jathara* and *Derakuta* are two mountain-ranges, running north and south, and connecting the two chains of *Nila* and *Nishadha*.

* In Asiatic Researches, Vol. VIII, p. 354. *Bhadrashva* is identified with China and *Ketumāla* with Europe.

Gandhamádana and Kailásha extend, east and west, 80 yojanas in breadth, from sea to sea. Nishadha and Pariyatra are the limitative mountains on the west stretching between the Nila and Nishadha ranges.

OF 'BHARATA VARSHA.

The country that lies north of the ocean, and south of Himalaya, is called Bhárata, as there dwelt the descendants of Bharata, the son of Shakuntalá. It is 9,000 yojanas in extent. The seven main chains of mountains are—Mahendra from Orissa to north Sircars; Malaya, southern portion of the Western Ghats; Sahya, northern portion of the Western Ghats, Shuktimat, Riksa, Vindhya and Páripátra.

The country is divided into nine portions—Indradwipa, Kaserumat, Tamravarna, Gabbastimat, Nágadwipa, Saumya, Gandharva and Varuna.

The Bhágavata and Padma Puranas name eight divisions—Svarṇaprastha, Chandrashukla, Avatrana, Ramanaka, Mandahara, Panchanya, Simhala and Lanka.

On the east of Bhárata, dwell the Kiratas; on the west the Yavanas; in the centre the Brahmana, &c.

The Shatadru (Sutlej) and the Chandrabhaga (Chenab) flow from the foot of the Himalaya. The Vedasmrita from the Paripara mountains; Narmada and Surasa from the Vindhya. Tapi (Tapti), Payoshní and Nirvindhyá from the Riksa mountains; Godavari, Bhimaraki, Krishnaveni, from the Sahya mountains; Kritamalá, Tamraparni from the Malaya mountains; Trisámá, Risikulyá, from Mahendra; the Kumari from Shuktimat.

The principal nations are—the Kurus, people of the upper Doab, and the Panchalas cover part of the Doab;—the people of Kamarupa in the east; Pundras in Bengal proper; Kalingas on

the sea-coast on the mouths of the Ganga ; Mágadhas (Biharis) in the south ; in the extreme west are Saurashtras, (Surat), Shuras and Abhiras, Arbudas, (Mewar) Karushas, Málavas dwelling along the Paripatra mountains. The Sauviras (Sindh and Rajputana), Saindhavas, Hunas (Indo-Scythians), Shalvas, Madras, Ramas, Ambashthas and Párasikas.

Rivers named in the Mahabhárata (Bhishma Parva) :—

Ganga Sindhu, Saraswati, Godavari, Narmad, Báhudá (Mahanada), Shatadru, Chandrabhagá, Yamuna, Drishadvati, Vitastá (Jhelum), Payoshni (Pain Ganga), Devika (Goggra). Vedasmṛita) Vedavati. Tridiva, Ikshumalanī, Karishini, Chitraváhā, Gomati Dhutapápá, Gandaki, Kaushik (Kosi), Sarayu Charmanwati, and many other minor streams.

